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BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

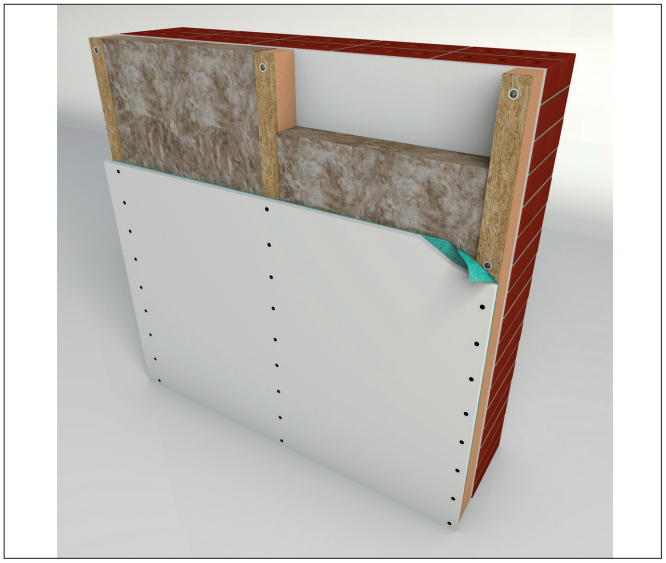
Agrément Certificate
18/5506
Product Sheet 1

SWIP

SOLID WALL INTERNAL WALL INSULATION SYSTEM

This Agrément Certificate Product Sheet(1) relates to the Solid Wall Internal Wall Insulation System, an insulated dry lining system comprising XPS/OSB studs (Ravatherm Polyfoam(2) XPS/OSB)(3) and glass mineral wool (Knauf Earthwool(2) EcoBatt) insulation slabs(4) for use on existing masonry cavity walls in both existing and new solid external walls of dwellings and buildings of similar occupancy, type and conditions.

(1) Hereinafter referred to as 'Certificate'.
(2) Ravatherm Polyfoam and Earthwool are registered trademarks.
(3) Hereinafter referred to as SWIP Studs.
(4) Hereinafter referred to as SWIP EcoBatt.



CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Thermal performance — the system can contribute to limiting heat loss through walls. The declared thermal conductivity value of the SWIP EcoBatt is 0.032 $W \cdot m^{-1} \cdot K^{-1}$ for a thickness of 95 mm and 0.035 $W \cdot m^{-1} \cdot K^{-1}$ for a thickness of 65 mm. The declared thermal conductivity of the Ravatherm polystyrene component of the SWIP Stud is 0.033 $W \cdot m^{-1} \cdot K^{-1}$ (see section 6).

Condensation — the system can limit the risk of surface condensation (see section 7).

Behaviour in relation to fire — the SWIP EcoBatt component has a reaction to fire classification of Class A1 and the Ravatherm Polyfoam XPS component of the SWIP Stud has a reaction to fire classification of Euroclass F in accordance with BS EN 13501-1 : 2007 (see section 9).

Durability — the system is rot-proof, dimensionally stable and durable and will have a service life equal to that of the building in which it is installed (see section 13).

The BBA has awarded this Certificate to the company named above for the system described herein. This system has been assessed by the BBA as being fit for its intended use provided it is installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 8 March 2018

John Albon — Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, the Solid Wall Internal Wall Insulation System, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):

The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	C2(c)	Resistance to moisture
Comment:		The system can contribute to satisfying this Requirement. See sections 7.1 and 7.4 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The system can contribute to a building satisfying this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The system is acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	26	CO_2 emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates for new dwellings (applicable to England only)
Regulation:	26A	Primary energy consumption rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Comment:		The system can contribute to satisfying these Regulations. See section 6 of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The system is acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.15	Condensation
Comment:		The system can contribute to satisfying this Standard, with reference to clauses 3.15.1[(1)(2)], 3.15.4[(1)(2)] and 3.15.5[(1)(2)]. See sections 7.1 and 7.5 of this Certificate.
Standard:	6.1(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The system can contribute to satisfying clauses or parts of 6.1.6[(1)], 6.2.1[(1)(2)], 6.2.3[(1)], 6.2.4[(2)], 6.2.5[(2)], 6.2.6[(1)], 6.2.7[(1)], 6.2.8[(1)(2)], 6.2.9[(1)(2)], 6.2.10[(1)(2)], 6.2.11[(1)(2)], 6.2.12[(2)] and 6.2.13[(1)(2)] of these Standards. See section 6 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The system can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. See section 6.1 of this Certificate.
Regulation:	12	Building standards applicable to conversions
Comment:		All comments given for this system under Regulation 9, Standards 1 to 6, also apply to this Regulation, with reference to clause 0.12.1[(1)(2)] and Schedule 6[(1)(2)].

(1) Technical Handbook (Domestic).
(2) Technical Handbook (Non-Domestic).

The Building Regulations (Northern Ireland) 2012 (as amended)

Regulation	23	Fitness of materials and workmanship
Comment:		The system is acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	29	Condensation
Comment:		The system can contribute to satisfying this Regulation. See section 7.1 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation	40(2)	Target carbon dioxide emission rate
Comment:		The system can contribute to a building satisfying these Regulations. See section 6 of this Certificate.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See section: 3 *Delivery and Site Handling* (3.3) of this Certificate.

Additional Information

NHBC Standards 2018

In the opinion of the BBA, the Solid Wall Internal Wall Insulation System, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*.

CE marking

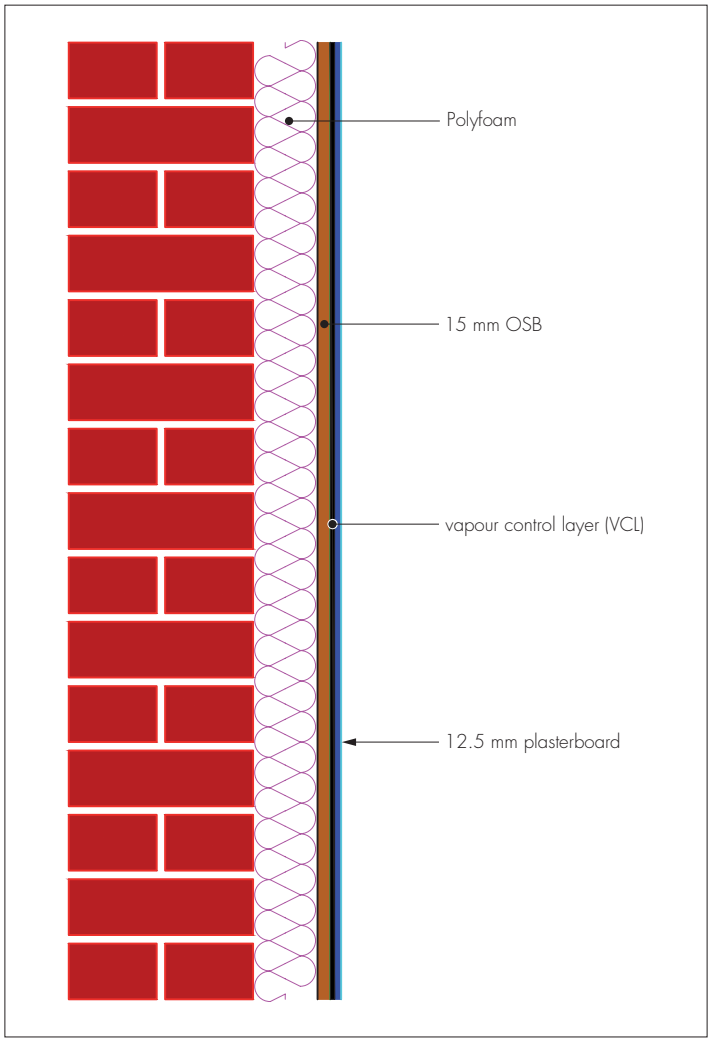
The Certificate holder has taken the responsibility of CE marking the SWIP EcoBatt component of the system in accordance with harmonised European Standard BS EN 13162 : 2012, and the XPS component of the SWIP Stud with BS EN 13164 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 The Solid Wall Internal Wall Insulation System consists of XPS (extruded polystyrene) bonded to OSB (oriented strand board) to create the SWIP Stud, and a glass mineral wool slab (SWIP EcoBatt). SWIP Studs are mechanically fixed to the internal face of masonry walls and the SWIP EcoBatt fitted between the SWIP Studs. The system is lined with a vapour control layer (VCL) with sealed and lapped joints and over boarded with plasterboard.

Figure 1 System side view



1.2 The system components are available with the nominal characteristics shown in Table 1.

Table 1 Nominal characteristics

Dimensions	SWIP Stud	SWIP EcoBatt
Thickness* (mm)	65 and 95	65 and 95
Width (mm)	50	555
Length (mm)	2400	1200

1.3 Ancillary items used with the system, but which are outside the scope of the Certificate are:

- countersunk stainless steel screws with a 12 mm head diameter (for fixing the SWIP Studs to the masonry wall)
- VCL
- plasterboard.

2 Manufacture

2.1 Extruded polystyrene boards are bonded to OSB to form the SWIP Stud component of the system. The glass mineral wool is manufactured from molten glass in a controlled way. The length and diameter of the fibre are subject to regular quality control checks by the manufacturer.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

3 Delivery and site handling

3.1 The system components are wrapped in polythene; SWIP Studs are additionally boxed or palletised depending on the required quantity. Each pack carries a label bearing the manufacturer's name, product description, essential instructions for installation and the BBA logo incorporating the number of this Certificate.

3.2 Packages must be stored under cover until required for use.

3.3 SWIP Studs must not be exposed to open flame or other ignition sources. Care must be taken to avoid contact with solvents and liquid bitumen or mastic products.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Solid Wall Internal Wall Insulation System.

Design Considerations

4 General

4.1 The Solid Wall Internal Wall Insulation System is for use as an insulated dry lining system to improve the thermal transmittance (U value) of existing masonry cavity walls and existing and new solid walls in dwellings and buildings of similar occupancy, type and conditions. The system uses SWIP EcoBatts, which are placed between SWIP Studs and overlaid with a VCL (with sealed and lapped joints) and plasterboard, in accordance with BS 8212 : 1995 and the Certificate holder's instructions.

4.2 The system is fixed to the warm side of external masonry walls including clay and calcium silicate bricks, concrete blocks, and natural and reconstituted stone blocks. It is essential that such walls are constructed having regard to the local wind-driven rain index. Masonry walls of new buildings should be designed and constructed in accordance with:

- BS 8000-3 : 2001
- BS EN 1996-1-1 : 2005, BS EN 1996-1-2 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006 and their respective UK National Annexes.

4.3 Since the system is not intended to offer resistance to rain penetration, walls must be rain resistant and show no signs of rain penetration or damp from ground moisture. Wall surfaces should be sound, clean and free from loose material. If present, mould or fungal growth should be treated prior to the application of the system.

4.4 To prevent air movement behind the system:

- the flatness of surfaces must be checked and made good prior to installation (see section 14.2)

- gaps between the plasterboard and the existing floor and all joints at the perimeter of the plasterboard must be filled with a flexible multi-purpose sealant (see section 15.11).

4.5 The installation of insulating dry lining systems requires careful detailing around doors and windows to achieve a satisfactory surface for finishing. In addition, every attempt should be made to minimise the risk of thermal bridging at reveals and where heavy separating walls are attached to the external wall. New work must be designed to accommodate the thickness of the dry lining, particularly at reveals, heads and sills, and in relation to ceiling height. Where the dimensions of fixtures are critical (eg bathrooms), they should be checked before installation.

4.6 De-rating of any electrical cables in areas where the system restricts the flow of air must be considered.

4.7 It is essential that proper care and attention is given to maintaining the integrity/continuity of VCLs. It is recommended that services which penetrate the dry lining, such as light switches and power outlets, are kept to a minimum to limit damage to vapour checks and VCLs.

5 Practicability of installation

The system is designed to be installed by a competent general builder, or a contractor, experienced with this type of system.

6 Thermal performance

6.1 Calculations of thermal transmittance (U value) should be carried out in accordance with BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2006, using the thermal conductivities* (λ_D *value*) from Table 2.

Table 2 Thermal conductivities

Thickness (mm)	SWIP Stud		SWIP EcoBatt
	XPS thermal conductivity* ($W \cdot m^{-1} \cdot K^{-1}$)	(15 mm) OSB thermal conductivity ($W \cdot m^{-1} \cdot K^{-1}$)	Thermal conductivity* ($W \cdot m^{-1} \cdot K^{-1}$)
65	0.033	0.13	0.035
95			0.032

6.2 Example U values in Table 3 show that the system can enable walls to meet, or improve on, the mean values that are deemed to limit excessive heat loss and contribute to reducing carbon emissions.

Table 3 SWIP Stud depths for typical design wall U values

Construction U value ($W \cdot m^{-2} \cdot K^{-1}$)(1)	SWIP Stud depth (mm)		
	Insulated cavity wall (0.42 $W \cdot m^{-2} \cdot K^{-1}$)	Uninsulated cavity wall (1.44 $W \cdot m^{-2} \cdot K^{-1}$)	Uninsulated solid wall (2.1 $W \cdot m^{-2} \cdot K^{-1}$)
0.35	65	95(2)	95(3)
0.30	65	95	95
0.28	65	95	2 x 65
0.27	65	2 x 65	2 x 65
0.26	65	2 x 65	2 x 65
0.25	65	2 x 65	2 x 65
0.23	95	2 x 65	65 + 95
0.22	95	65 + 95	65 + 95
0.19	95	65 + 95	65 + 95
0.18	105	2 x 95	2 x 95

(1) Assumes SWIP Studs at 600 mm centres and a top and bottom rail, giving 12.5% SWIP Stud area and 12.5 mm standard wallboard lining.
(2) 65 mm SWIP Studs achieve a U value of 0.39 $W \cdot m^{-2} \cdot K^{-1}$.
(3) 65 mm SWIP Studs achieve a U value of 0.43 $W \cdot m^{-2} \cdot K^{-1}$.

6.3 Care must be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration. Detailed guidance can be found in the documents supporting the national Building Regulations.

7 Condensation

Interstitial condensation

7.1 Walls will limit the risk of interstitial condensation adequately when they are designed and constructed in accordance with BS 5250 : 2011, Annexes D and Appendix G.

7.2 The risk of summer condensation on the VCL must be considered for solid masonry walls orientated from ESE through south to WSW, in accordance with section 3.10 of BRE Report BR 262 : 2002.

7.3 For the purposes of assessing the risk of interstitial condensation, the SWIP EcoBatt vapour resistivity may be taken as approximately 5 $MN \cdot s \cdot g^{-1} \cdot m^{-1}$.

Surface condensation

7.4 Walls incorporating the system will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 0.7 $W \cdot m^{-2} \cdot K^{-1}$ at any point and junctions with other elements are designed in accordance with the guidance referred to in section 6.3 of this Certificate.

7.5 Walls will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 1.2 $W \cdot m^{-2} \cdot K^{-1}$ at any point. Guidance may be obtained from Annex G of BS 5250 : 2011. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 6.3 of this Certificate.

7.6 Proprietary thermal laminate board is used to line window and door openings to limit the risk of surface condensation (see section 15.3 of this Certificate).

7.7 Dry lining has been used successfully in the rehabilitation of buildings suffering from surface condensation of walls where the dampness has been caused by lack of thermal insulation.

8 Wall mounted fittings

The recommendations of the Certificate holder must be followed. Any objects fixed to the wall, other than lightweight items, are outside the scope of this Certificate.

9 Behaviour in relation to fire

9.1 SWIP EcoBatt has a reaction to fire classification* of Class A1 and the XPS content of SWIP Stud has a reaction to fire classification* of Euroclass F in accordance with BS EN 13501 -1 : 2007.

9.2 When properly installed, the SWIP Stud and SWIP EcoBatt are contained between the wall and internal lining board until one is destroyed. Therefore, they will not contribute to the development stages of a fire.

9.3 Elements must incorporate cavity barriers at edges, around openings and at junctions with fire-resisting elements. The maximum dimensions of any cavity in any direction must not exceed 10 m in accordance with the relevant provisions of the national Building Regulations. The design and installation of cavity barriers must take into account any anticipated differential movement.

10 Proximity of flues and appliances

When the system is installed in close proximity to certain flue pipes and/or heat-producing appliances, the relevant provisions of the national Building Regulations should be met:

England and Wales — Approved Document J

Scotland — Mandatory Standard 3.19, clauses 3.19.1(1) to 3.19.4(1)

(1) Technical Handbook (Domestic).

Northern Ireland — Technical Booklet L.

11 Materials in contact — wiring installations

11.1 As with any form of insulation, de-rating of electrical cables should be considered where the insulation restricts the air cooling of cables.

11.2 Electrical cables that are likely to come into contact with the insulation component of the thermal liner are required to be protected by a suitable conduit or PVC-U trunking. The installation of electrical services must be carried out in accordance with BS 7671 : 2008.

12 Maintenance

As the components of the system are confined behind the wall lining board and have suitable durability (see section 13), maintenance is not required.

13 Durability

The durability of the materials is satisfactory. Provided the system is fixed to satisfactory, stable and durable backgrounds, the system will have a life equal to the building in which it is installed.

Installation

14 General

14.1 Installation should be in accordance with BS 8212 : 1995, good dry lining practice and the relevant parts of the Certificate holder's literature.

14.2 All installations of insulated dry lining require careful planning and setting out. Surfaces should be sound, clean and free from loose material. The flatness of surfaces must be checked; this may be achieved by using a straight edge

spanning the storey height. Any excessive irregularities, ie greater than 10 mm in one metre, must be made good prior to installation to prevent air circulation behind the SWIP EcoBatts and to ensure a flat surface for the SWIP Studs.

14.3 Before fixing the system, sufficient time must be allowed for damp-proofing treatments, where applied, to dry out (see also BS 6576 : 2005, for dry lining in conjunction with a chemical dpc application).

14.4 SWIP EcoBatt can be cut using a sharp knife and the SWIP Studs using a fine-toothed saw, to fit around windows, doors and air bricks.

14.5 To avoid thermal bridging, proprietary thermal laminate board should be used to line window reveals and suitable provisions will also need to be adopted at junctions and other details such as separating floors. Further guidance can be obtained from BRE Report BR 262 : 2002 and the Certificate holder's installation instructions.

15 Procedure

15.1 Where required, pre-treated timber SWIP Studs are mechanically fixed to the wall substrate to support heavy items. SWIP Studs are then fixed horizontally to the head and foot of the wall and vertically at 600 mm centres and around openings to coincide with the plasterboard joints, with proprietary countersunk stainless steel screws with a 12 mm head diameter and masonry-appropriate wall plugs (see Figure 3). A minimum fixing penetration of 40 mm is required into the masonry wall (excluding thickness of any plaster). Fixings are positioned at 600 mm maximum centres and 75 mm from the end of each SWIP Stud as shown in Figure 2. Short SWIP Stud lengths must have at least 2 fixings at not more than 600 mm centres. When required, a second layer of SWIP Stud is fixed over the first layer, ensuring a minimum 38 mm fixing penetration into the first layer.

Figure 2 Fixing centres

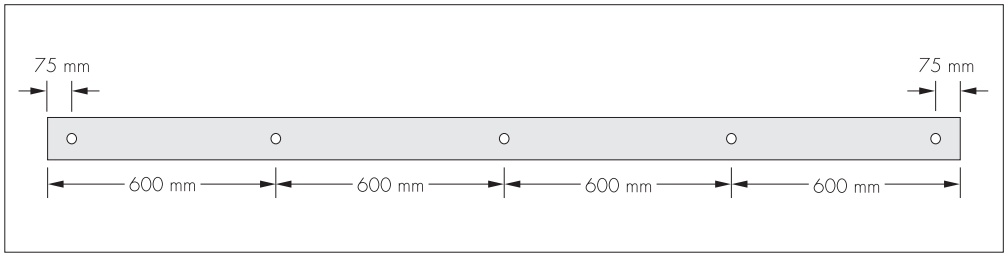
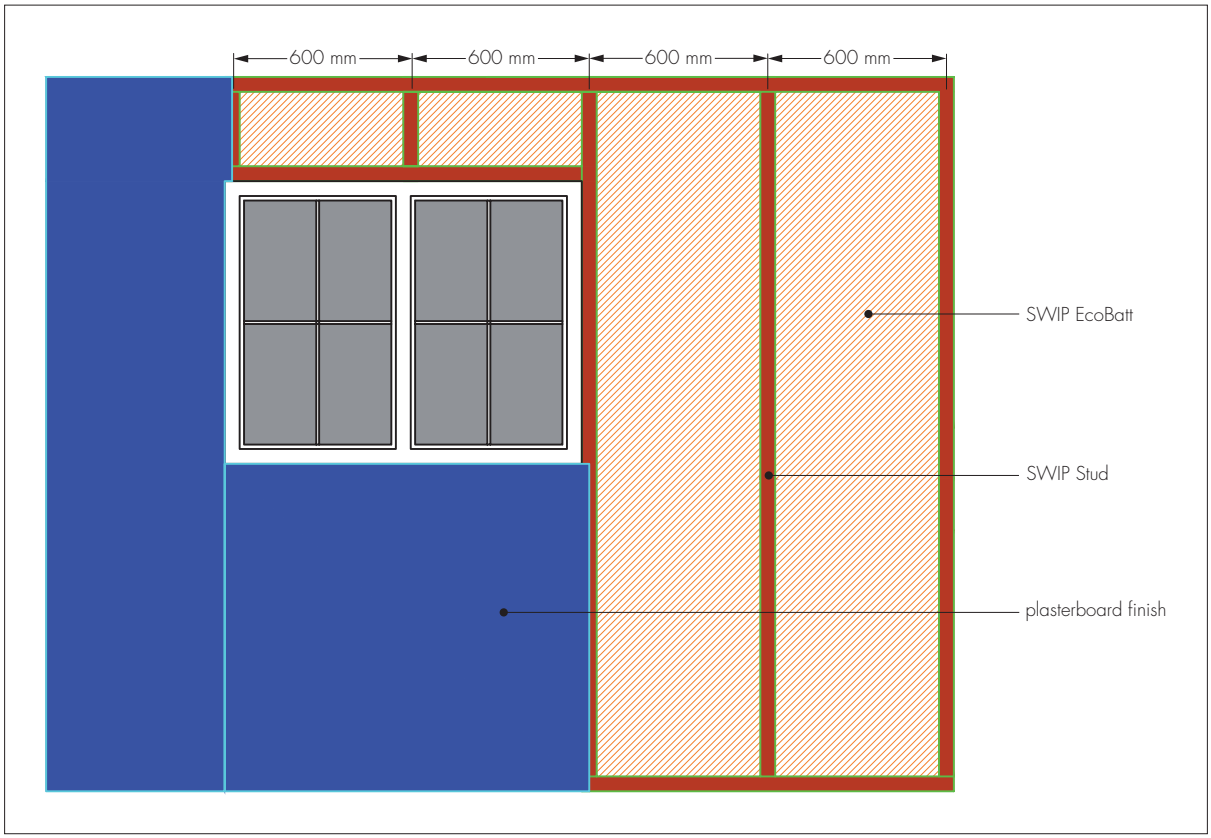


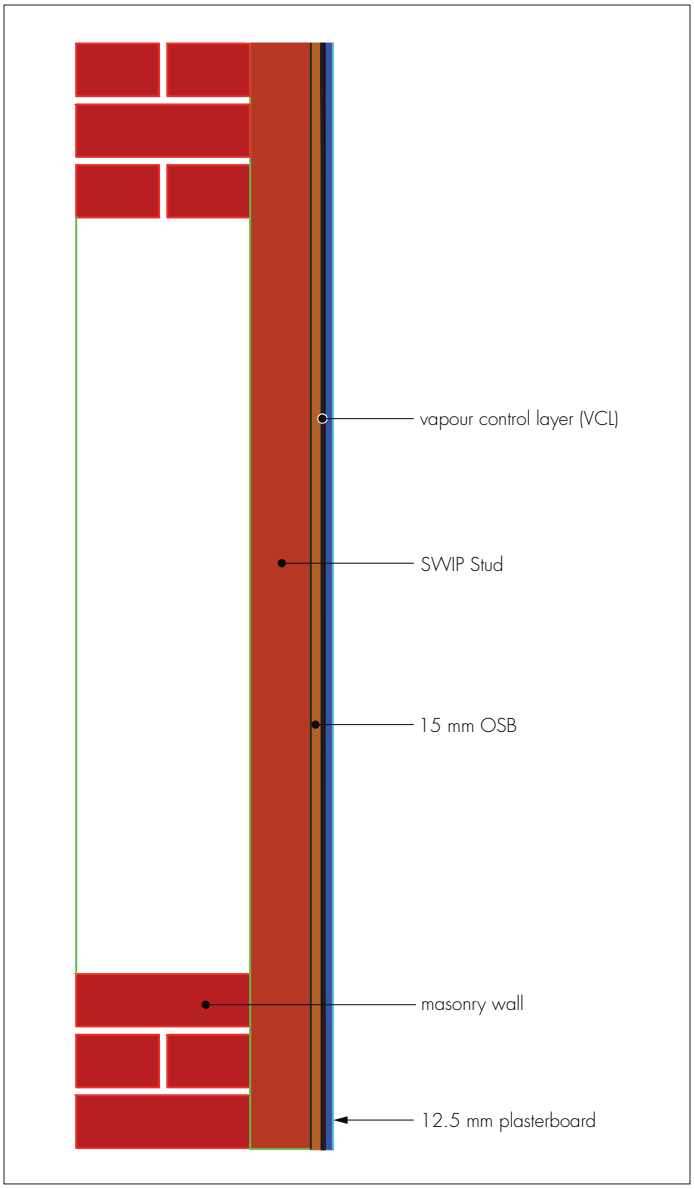
Figure 3 System detailing



Wall openings

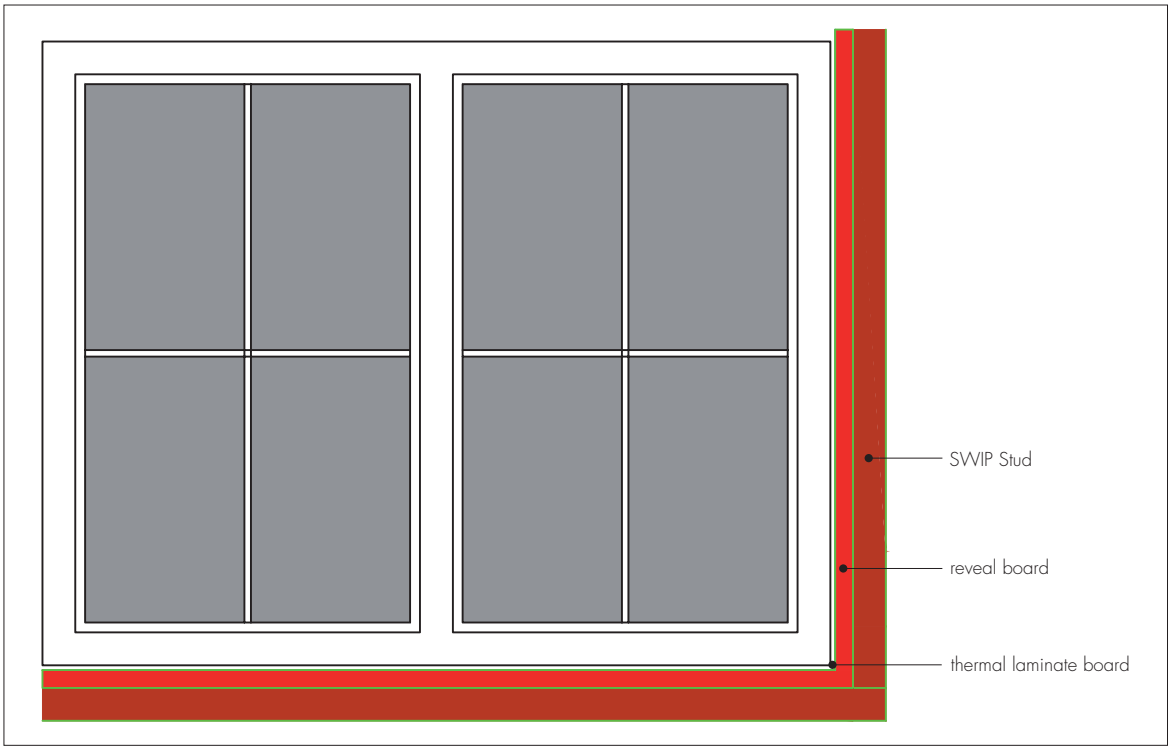
15.2 Around openings (windows and doors), SWIP Studs are screw-fixed to the wall at the edge of jambs, sills and heads as determined by on-site requirements (see Figure 4).

Figure 4 Opening detailing



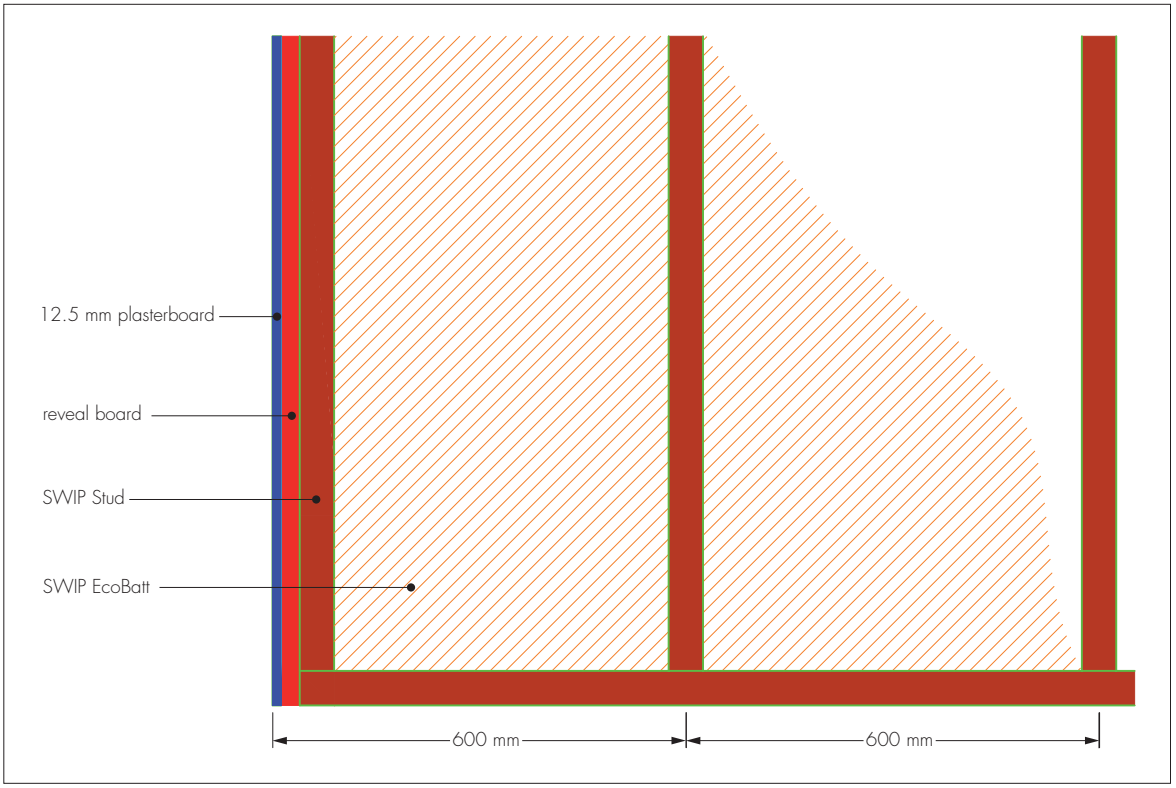
15.3 Openings are lined with a proprietary thermal laminate board (the Certificate holder can advise on suitable materials) and fixed using adhesive or plaster dabs, and additionally secured with localised mechanical fixings. The edge of the thermal laminate board should finish flush with the face of the SWIP Studs (see Figure 5).

Figure 5 Thermal laminate board



15.4 When setting out SWIP Studs adjacent to openings in relation to plasterboard dimensions, allowance must be made for the fact that the plasterboard needs to extend beyond the centre line of the jamb SWIP Stud to cover the thermal laminate board. For example, the dimension between the centre lines of the jamb SWIP Stud and the next SWIP Stud needs to be 600 mm, less the thermal laminate thickness (including adhesive dabs), less 25 mm (half the SWIP Stud width) (see Figure 6).

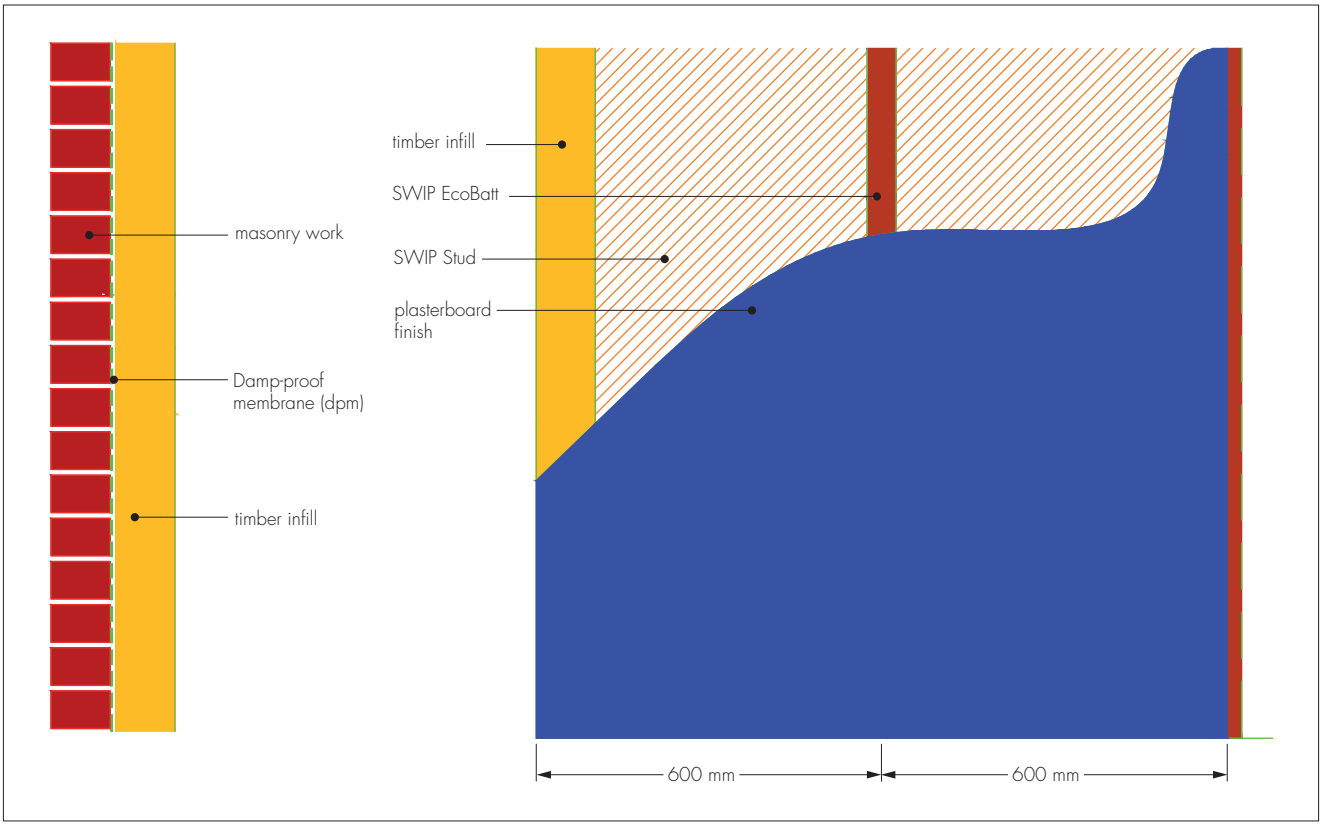
Figure 6 SWIP Stud detailing at opening



Stepped or check reveals

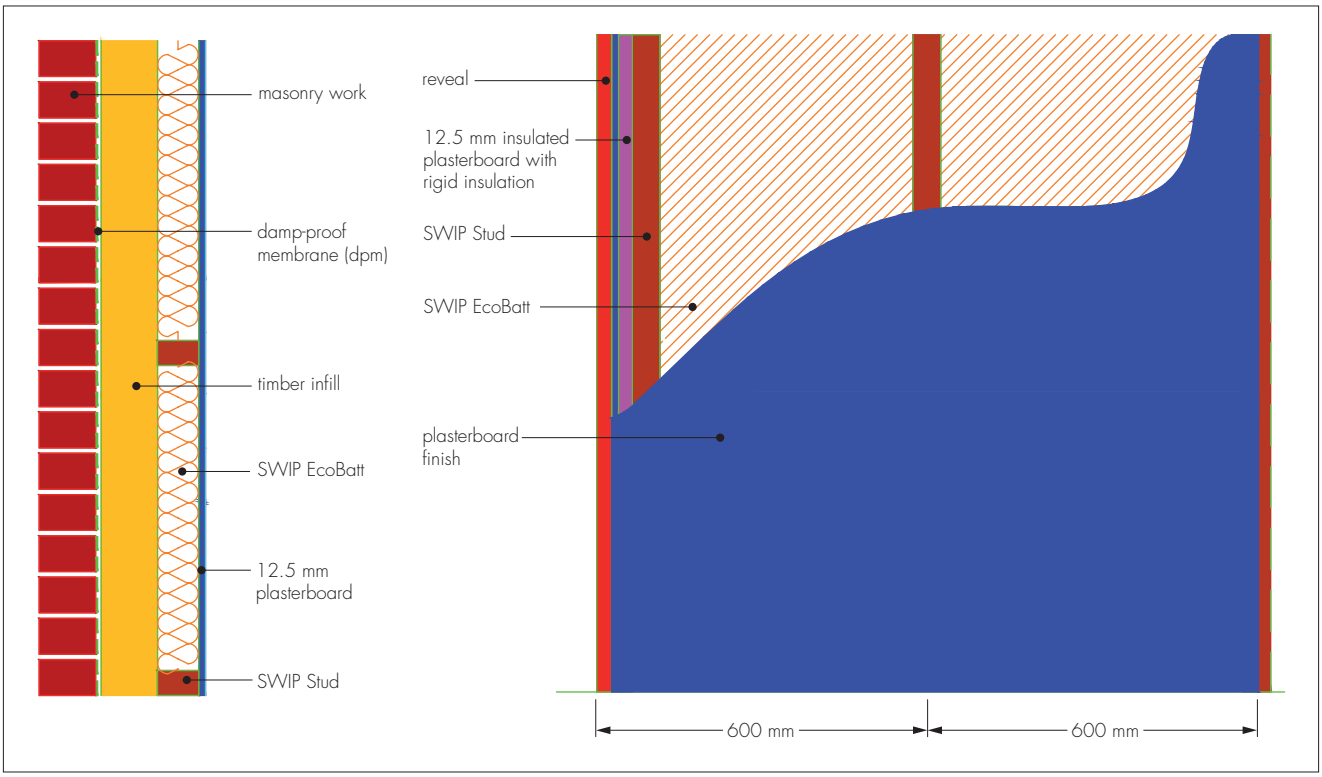
15.5 A new window frame is installed towards the outside of the wall. The head and jamb reveals must be built-out with a suitably-sized timber infill piece to accommodate the recommended thickness of thermal laminate board, and a strip of damp-proof membrane (dpm) fixed to the back of the timber using galvanized nails or stainless steel staples (ie between the timber and the external wall) — see Figure 7.

Figure 7 Opening timber infill



15.6 SWIP Studs are fixed to the face of the jambs and lined flush with the timber infill piece to form a continuous insulated lining around the opening. Plasterboard is cut back accordingly (see Figure 8).

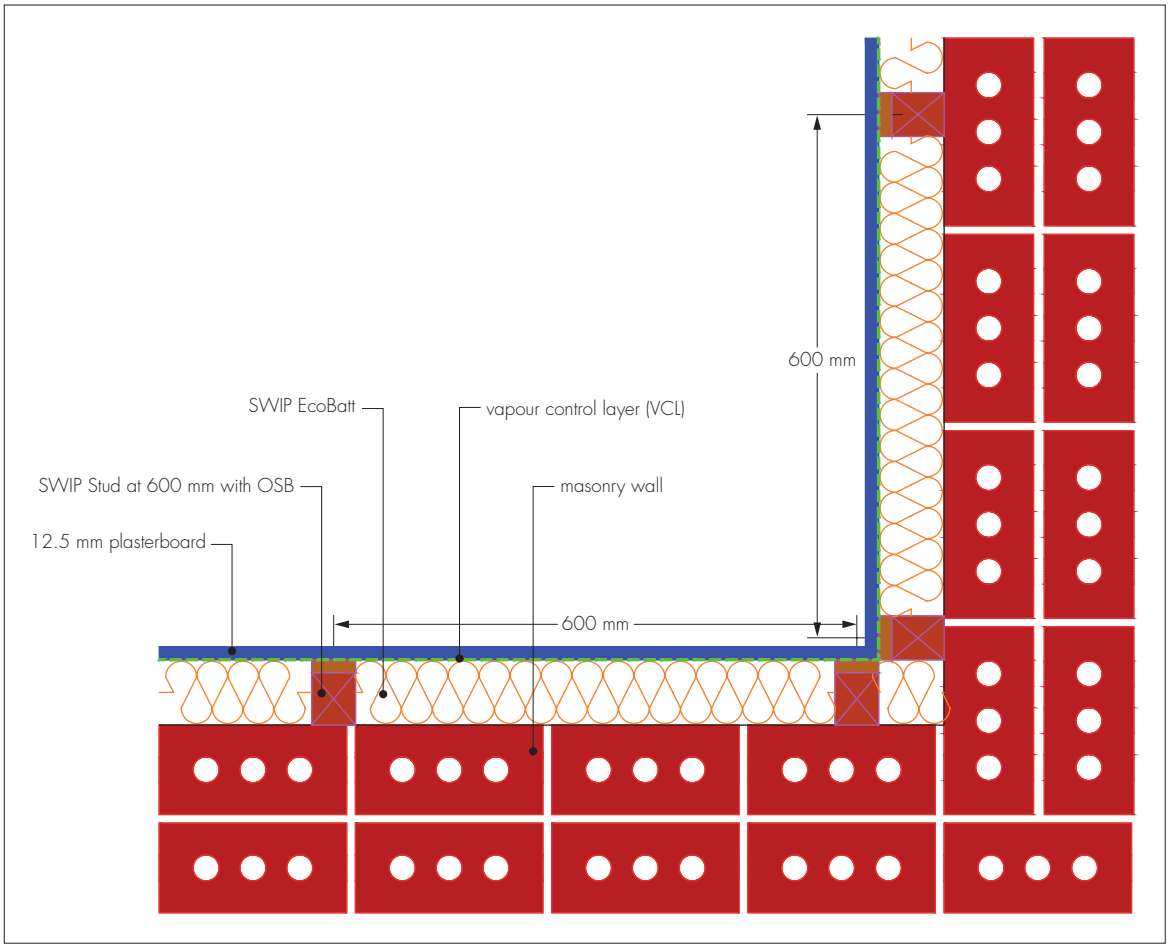
Figure 8 Stepped/checked reveal detailing



Internal corner

15.7 Internal corner voids are fully filled with SWIP EcoBatt, with the centre of the SWIP Studs adjacent to the corner SWIP Studs adjusted to accommodate the corner detail (see Figure 9).

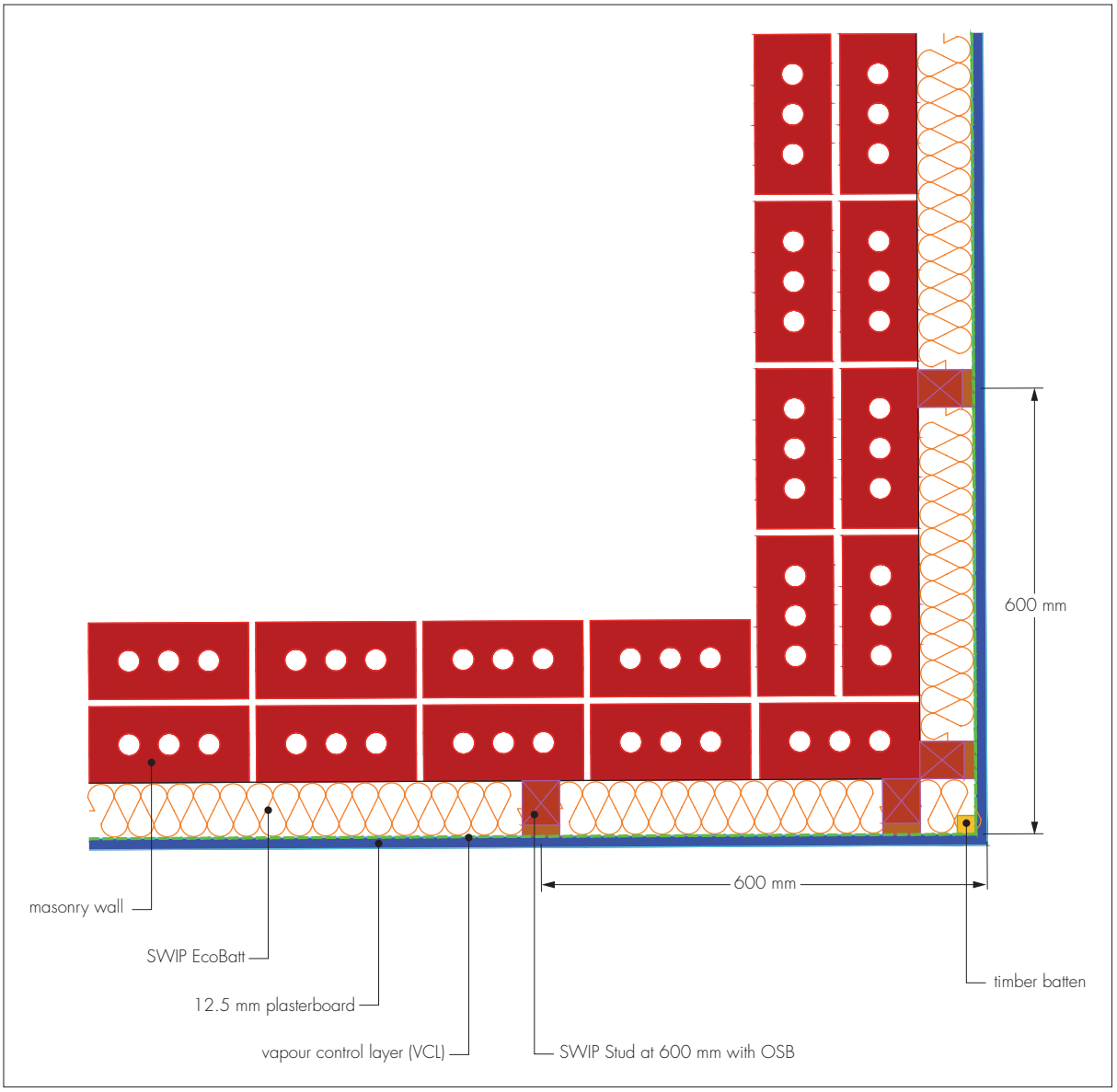
Figure 9 Internal corner detailing



External corner

15.8 At external corners, additional rigidity at the junction of the plasterboard linings is provided by screw fixing a timber batten (minimum 25 mm by 25 mm) in position and fully filling the corner void with SWIP EcoBatt. The centre of the SWIP Studs adjacent to the corner SWIP Studs should be adjusted to accommodate the corner detail (see Figure 10).

Figure 10 External corner detailing



SWIP EcoBatts

15.9 SWIP EcoBatts are friction-fitted between the SWIP Studs to completely fill the space in all directions (see Figures 3, 9 and 10); the SWIP EcoBatts should be cut 5 mm wider than the space they are intended to fill.

Internal lining

15.10 A VCL (with sealed and lapped joints) and plasterboard are installed over the face of the SWIP Studs before applying the internal finish.

15.11 Plasterboard is fixed using 38 mm drywall screws at nominal 300 mm horizontal and vertical centres, reducing to 200 mm centres at corners. A 3 mm to 5 mm gap is left between the plasterboard and the existing floor, which is then filled with a flexible multi-purpose sealant, as well as all joints at the perimeter of the plasterboard to prevent air movement behind the system.

15.12 Jointing and finishing of the plasterboard lining is carried out in the appropriate manner applying plasterer's scrim to all joints and a thin coat of plaster; or the system can be finished using standard dry-lining techniques.

Tiling

15.13 SWIP Studs must be faced with suitable moisture-resistant plasterboard when installing in humid or wet areas such as kitchens and bathrooms. The weight of tiling (including adhesive) fixed direct to plasterboard (without plaster skim) should not exceed 32 kg·m^{-2}. Guidance and recommendations from tiling manufacturers, BS 5385-1 : 2009 and BS 5385-4 : 2015 should be followed.

16 Tests

Results of tests carried out on the Solid Wall Internal Wall Insulation System were assessed to determine:

SWIP Stud

- Pull-out strength of fixings from the OSB
- interlaminate bond-strength.

XPS

- thermal conductivity
- dimensional stability
- compressive strength.

SWIP EcoBatt

- thermal conductivity
- dimensional stability
- dimensional accuracy.

17 Investigations

17.1 The manufacturing process was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

17.2 The company's design and installation instructions were examined.

17.3 An assessment of the risk of interstitial and surface condensation was made.

17.4 U values were calculated for typical wall constructions.

Bibliography

BS 5250 : 2011 *Code of practice for control of condensation in buildings*

BS 5385-1 : 2009 *Wall and floor tiling — Design and installation of ceramic, natural stone and mosaic wall tiling in normal internal conditions — Code of practice*
BS 5385-4 : 2015 *Wall and floor tiling — Design and installation of ceramic and mosaic tiling in specific conditions — Code of practice*

BS 6576 : 2005 *Code of practice for diagnosis of rising damp in walls of buildings and installation of chemical damp-proof courses*

BS 7671 : 2008 *Requirements for electrical installations — IET wiring regulations — Seventeenth Edition*

BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*

BS 8212 : 1995 *Code of practice for dry lining and partitioning using gypsum plasterboard*

BS EN 1996-1-1 : 2005 *Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
NA to BS EN 1996-1-1 : 2005 *UK National Annex to Eurocode 6 : Design of masonry structures — General rules for reinforced and unreinforced masonry structures*
BS EN 1996-1-2 : 2005 *Eurocode 6 : Design of masonry structures — General rules — Structural fire design*
NA to BS EN 1996-1-2 : 2005 *UK National Annex to Eurocode 6 : Design of masonry structures — General rules — Structural fire design*
BS EN 1996-2 : 2006 *Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry*
NA to BS EN 1996-2 : 2006 *UK National Annex to Eurocode 6 : Design of masonry structures — Design considerations, selection of materials and execution of masonry*
BS EN 1996-3 : 2006 *Eurocode 6 : Design of masonry structures : Simplified calculation methods for unreinforced masonry structures*
NA to BS EN 1996-3 : 2006 *UK National Annex to Eurocode 6 : Design of masonry structures : Simplified methods for unreinforced masonry structures*

BS EN 13162 : 2012 *Thermal insulation products for buildings — Factory made mineral wool (MW) products — Specification*

BS EN 13164 : 2012 *Thermal insulation products for buildings — Factory made extruded polystyrene foam (XPS) products — Specification*

BS EN 13501-1 : 2007 *Fire classification of construction products and building elements — Classification using data from reaction to fire tests*

BS EN ISO 6946 : 2017 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation methods*

BRE Report (BR 262 : 2002) *Thermal insulation: avoiding risks*

BRE Report (BR 443 : 2006) *Conventions for U-value calculations*

18 Conditions

18.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page — no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English Law.

18.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

18.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

18.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

18.5 In issuing this Certificate, the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

18.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care.

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