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**Agreement
Certificate
No 05/4282**

Designated by Government
to issue
European Technical
Approvals

VENCEL RESIL JABSIP STRUCTURAL WALLING SYSTEM

Parement extérieur
Verkleidung

Product



• THIS CERTIFICATE RELATES TO THE VENCEL RESIL JABSIP STRUCTURAL WALLING SYSTEM, MANUFACTURED FROM OSB/3 AND EXPANDED POLYSTYRENE INSULATION.

• The panels are for use above the damp-proof course in buildings up to three storeys high with a conventional or trussed roof, to construct the internal loadbearing or non-loadbearing leaf of external walls.

• The product can also be used as part of a loadbearing or non-loadbearing separating wall and for internal loadbearing and non-loadbearing walls.

continued

Regulations

1 The Building Regulations 2000 (as amended) (England and Wales)



The Secretary of State has agreed with the British Board of Agrément the Requirements of the Building Regulations to which wall panels can contribute in achieving compliance. In the opinion of the BBA, the Vencel Resil Jabsip Structural Walling System, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: A1

Loading

Comment:

Walls constructed from the panels will have sufficient strength and stiffness when designed in accordance with section 9.1 of this Certificate.

Requirement: B3(1)(2)

Internal fire spread (structure)

Comment:

The panels can be used in walls required to have a fire resistance of 60 minutes. See sections 13.1 and 13.2 and 13.6 of this Certificate.

Requirement: C2(c)

Resistance to moisture

Comment:

A wall can adequately limit the risk of surface condensation and will contribute to minimising the risk of interstitial condensation. See sections 10.1 and 10.2 of this Certificate.

continued

- Installation must be carried out by contractors approved by the Certificate holder in accordance with the Certificate holder's recommendations and all constructions incorporating the system assessed and approved by a Chartered Engineer.

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Requirement: E1	Protection against sound from other parts of the building and adjoining buildings
Comment:	Constructions incorporating the panels can adequately resist airborne sound transmission. See section 15 of this Certificate.
Requirement: L1(a)(i)	Conservation of fuel and power
Comment:	Walls can contribute to meeting the Target Emission Rate. See sections 11.3 to 11.5 and 12.1 to 12.3 of this Certificate.
Requirement: Regulation 7	Materials and workmanship
Comment:	The panels are acceptable. See section 17.1 of this Certificate.

2 The Building (Scotland) Regulations 2004



In the opinion of the BBA, the Vencel Resil Jabsip Structural Walling System, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Mandatory Standards as listed below.

Regulation: 8	Fitness and durability of materials and workmanship
Regulation: 8(1)	Fitness and durability of materials and workmanship
Comment:	The panels can contribute to a construction meeting this Regulation. See section 17.1 and the <i>Installation</i> part of this Certificate.
Regulation: 9	Building standards – construction
Standard: 1.1(a)	Structure
Comment:	Walls incorporating the panels will have sufficient strength and stiffness when designed and constructed in accordance with section 9.1 of this Certificate.
Standard: 2.2	Separation
Comment:	Walls using the appropriate lining, can achieve a period of fire resistance of 'medium' duration, with reference to clauses 2.2.1 ⁽¹⁾ to 2.2.3 ⁽¹⁾ of this Standard. See sections 13.4 and 13.5 of this Certificate.
Standard: 2.3	Structural protection
Comment:	Walls using the appropriate lining can achieve a period of fire resistance of 'medium' duration, with reference to clause 2.3.1 ⁽¹⁾ of this Standard. See sections 13.1 to 13.6 of this Certificate.
Standard: 2.4	Cavities
Comment:	Walls using an appropriate cavity barrier can satisfy this Standard, with reference to clauses 2.4.1 ⁽¹⁾ to 2.4.7 ⁽¹⁾ . See section 13.6 of this Certificate.
Standard: 2.6	Spread to neighbouring buildings
Comment:	Walls using the appropriate lining, can achieve a period of fire resistance of 'medium' duration, with reference to clause 2.6.1 ⁽¹⁾ of this Standard. See sections 13.1, 13.2 and 13.4 of this Certificate.
Standard: 3.15	Condensation
Comment:	A wall incorporating the panels can satisfy this Standard, with reference to clauses 3.15.1 ⁽¹⁾ to 3.15.4 ⁽¹⁾ . See sections 10.1 and 10.2 of this Certificate.
Standard: 5.1	Resisting sound transmission to dwellings
Comment:	Separating walls incorporating the system panels can adequately resist airborne sound transmission between dwellings, with reference to clauses 5.1.1 ⁽¹⁾ , 5.1.2 ⁽²⁾ and 5.1.12 ⁽¹⁾ . See section 15 of this Certificate.
Standard: 6.2	Building insulation envelope
Comment:	The wall panels will enable a wall to satisfy the Elemental Method of limiting fabric heat loss, with reference to clauses 6.2.1 ⁽¹⁾ to 6.2.5 ⁽¹⁾ . See sections 11.6, 11.7, 12.1 and 12.4 of this Certificate.

(1) Technical Handbook (Domestic).

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, the Vencel Resil Jabsip Structural Walling System, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation: B2	Fitness of materials and workmanship
Comment:	The panels are acceptable. See section 17.1 of this Certificate.

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Regulation:	C5	Condensation
Comment:		A wall incorporating the panels can satisfy this Regulation. See the sections 10.1 and 10.2 of this Certificate.
Regulation:	D1	Stability
Comment:		Walls constructed from the panels will have sufficient strength and stiffness when designed in accordance with section 9.1 of this Certificate.
Regulation:	E4(1)(2)	Internal fire spread — Structure
Comment:		The panels can be used in walls required to have a fire resistance of 60 minutes. See sections 13.1 and 13.2 and 13.6 of this Certificate.
Regulation:	F2	Building fabric
Comment:		The panels will enable a wall to satisfy the Elemental Method of limiting fabric heat loss. See sections 11.8, 11.9, 12.1 and 12.5 of this Certificate.
Regulation:	G2	Separating walls and separating floors
Comment:		Separating walls incorporating the product can adequately resist airborne sound transmission between dwellings. See section 15 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: *5 Description (5.2) and 6 Delivery and site handling (6.1) of this Certificate.*

Technical Specification

5 Description

5.1 The Vencel Resil Jabsip Structural Walling System has an internal and external skin of 12 mm thick oriented strand board (OSB/3) to BS EN 300 : 1997 and a core of expanded polystyrene insulation to BS EN 13163 : 2001. Incorporated within each panel are top and bottom timber plates, vertical OSB/3-EPS splines and/or a timber stud for corner jointing, timber lintels and framing around windows and door openings.

5.2 The panels have nominal dimensions of:

length (m)	up to 13
width/height (m)	up to 2.850
overall nominal thickness (mm)	50 to 300
OSB thickness (mm)	12
typical weight ⁽¹⁾ (kgm ⁻²)	27
insulation thickness (mm)	26 to 276
edge detail	rebated or plain.

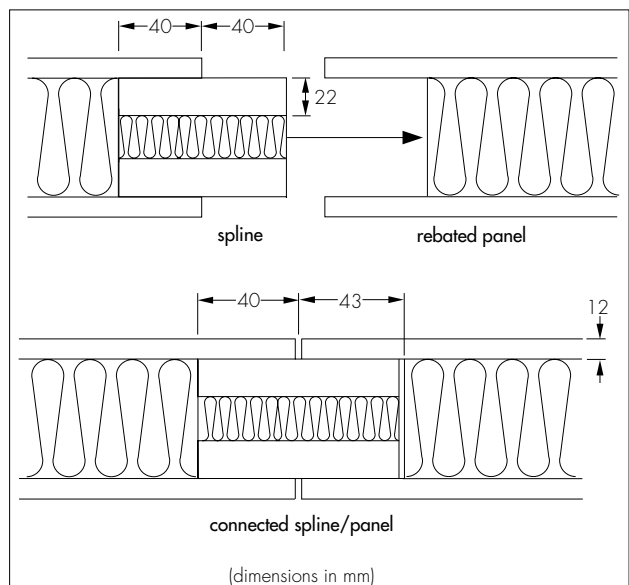
(1) Dependent on panel size.

5.3 Connection of the panels in line is by OSB/3 spline located in rebates within the EPS core (see Figure 1).

5.4 Ancillary items used with the panels include:

- sole plates — 35 mm thick softwood timber to BS EN 14081-1 : 2005, grade TR26 KD
- head plates — 35 mm thick softwood timber to BS EN 14081-1 : 2005, grade TR26 KD.

Figure 1 Typical spline vertical joint detail



5.5 Associated ancillary items required but not covered by this Certificate:

- screed rails — 38 mm to 47 mm thick, treated timber to BS 1282 : 1999 used to support the sole plate (see BS 5268-5 : 1989 for the required risk category)
- dry lining battens — minimum 50 mm wide by 25 mm deep softwood battens
- plasterboard to BS 1230-1 : 1985
- wall ties — stainless steel to BS EN 845-1 : 2003 and BS DD 140-2 : 1987, Type 6 (typically Simpson Strong-Tie BTS4 SCB)
- fixings — proprietary types to BS EN 1995-1-1 : 2004

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- cavity barrier — propriety mineral wool slab five stops (achieving Euroclass A1 fire rating to BS EN 13501-1 : 2002) at each end of a separating all construction
- breathable membrane — for use in timber wall construction.

6 Delivery and site handling

6.1 Wall panels are delivered to site in packs, the number of panels in each pack may vary depending upon the size of the panels. Packs should be stored flat, on level ground, on bearers at no more than 1200 mm centres and covered until use to prevent water accumulation.

6.2 Each panel carries the manufacturer's name and the BBA identification mark incorporating the number of this Certificate.

6.3 Care must be taken in loading, stacking and storing the wall panels to prevent damage.

6.4 The wall panels should be lifted from the stack and not dragged across it.

6.5 Ancillary items should be suitably stored undercover and in dry conditions until required for use.

Design Data

7 General

7.1 The Vencel Resil Jabsip Structural Walling System is suitable for use as the inner leaf of loadbearing or non-loadbearing external walls, the loadbearing or non-loadbearing leaves of separating walls and loadbearing or non-loadbearing partitions in single or multiple occupancy dwellings up to three storeys with a conventional roof. All structural design involving the use of the system must be carried out by a Chartered Structural Engineer or appropriately qualified person, in accordance with UK practice, conditions and Building Regulations.

7.2 All production drawings should be carried out by the Certificate holder or appointed agent incorporating the standard details as available from the Certificate holder.

7.3 The formation of openings for windows and doors in panels (including additional strengthening in the form of lintels and framing) should only be carried out under approved factory conditions or, on site by use of multiple pre-engineered panels. The structural design of any buildings must take account of the reduction in loadbearing capacity of the panels and the overall stability of the building due to the number and location of openings. Small service openings for pipework for flues (see section 14) may only be made through the panels on site when agreed by the Certificate holder.

7.4 When the panels are used to construct the inner leaf of an external cavity wall, the outer masonry leaf and all masonry below the dpc must

be designed and constructed in accordance with BS 5628-3 : 2005.

7.5 Other wall and weatherproofing systems can be used, but are not covered by this Certificate.

7.6 Foundations (outside the scope of this Certificate) must be approved for use by the main contractor (see section 18.3) and should be suitably level and square and within agreed tolerances to accept the system.

7.7 Where buildings incorporating the walling panels need to comply with NHBC Technical Standards or *Zurich Building Guarantee Technical Manual*, Section 4 *Superstructure*, specifiers should observe the requirements of these Standards.

8 Practicability of installation

The panels may be readily installed by contractors who have been trained and approved by the Certificate holder to undertake this work. Any installation work should follow the details and information contained in the construction drawings, as prepared by the Certificate holder and their approved designers.

9 Structural performance

9.1 The wall panels will have adequate strength and stiffness when used in accordance with the provisions of this Certificate.

9.2 As an example the maximum permissible design loads that can be applied to the 80 mm⁽¹⁾ and 130 mm insulation core wall panels with 12 mm OSB/3 skins, up to 2750 mm high, are shown in Tables 1 and 2. Values are calculated using sandwich theory with creep coefficients⁽²⁾ used to reduce the shear modulus of the EPS core. A series of load tests were also carried out on 80 mm and 130 mm insulation core panels to verify the calculated results. The values also assume a maximum serviceability deflection of L/300. Designers should also consider the load limitations that may be imposed due to fire resistance (see section 13).

- (1) 80 mm insulation core walls are generally used for internal loadbearing or non-loadbearing double-skin separating walls where biaxial bending is not a consideration.
- (2) Creep coefficients — long-term loading 7, short-term loading 3.5.

Table 1 Permissible loading for 80 mm insulation core wall panels⁽¹⁾ with 12 mm OSB/3 skins

Panel length (l) (mm)	Maximum axial load (kNm ⁻¹)
2400	13.4
2500	13.2
2600	13.0
2750	12.6

- (1) 80 mm insulation core walls are generally used for internal loadbearing or non-loadbearing partitions where biaxial bending is not a consideration.

Table 2 Permissible loading for 130 mm insulation core wall panels with 12 mm OSB/3 skins

Panel length (L) (mm)	Maximum axial load (kNm ⁻¹)	Maximum wind load (kNm ⁻²)
2400	21.8	1
2500	21.6	1
2600	21.4	1
2750	20.8	1

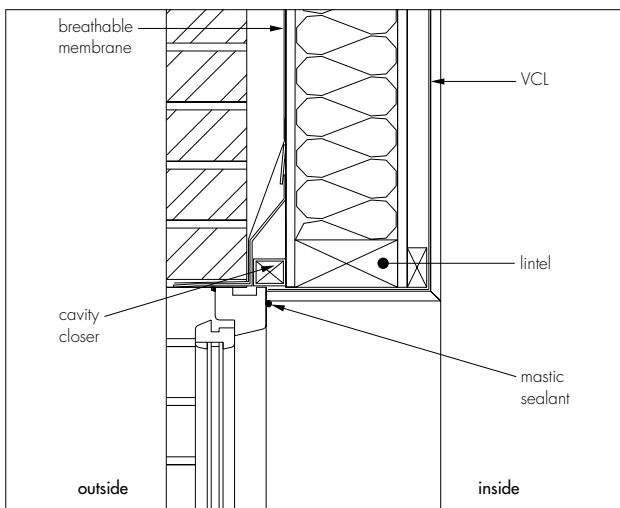
9.3 A basic wall racking resistance of 2.03 kNm⁻¹(1) for wall panels, based on racking tests to BS EN 594 : 1996 and derived from BS 5268-6.1 : 1996, can be assumed.

(1) Using 2.87 mm diameter nails at 150 mm centres to fix panels to top and bottom plates and connect vertical splines to panels.

9.4 The strength of all connection details which tie walls, comprising the panels, to other structural elements (such as floors, roofs, columns) must be evaluated and provide adequate stability for the overall building design. The specification and design for these items must be determined by the Engineer responsible for the stability of the building. Guidance on the design of connection details may be obtained from the Certificate holder.

9.5 Lintels and framing around openings form an integral part of the loadbearing wall panels (see Figure 2). The sizing of lintels framing is the responsibility of Structural Engineer responsible for the design.

Figure 2 Typical opening detail



9.6 As part of the structural design, consideration should be given to the support of eccentric loads for example, by central heating systems or kitchen appliances.

9.7 Stainless steel wall ties⁽¹⁾ to BS EN 845-1 : 2003 and BS DD 140-2 : 1987, Type 6) can be directly attached to the OSB/3 face of the panel using stainless-steel timber-frame fixing screws or as approved by the Certificate holder⁽²⁾.

- (1) Spaced in accordance with BS 6399-2 : 1997 and centres vary depending on wind speed.
- (2) Typically Simpson Strong-Tie BTS4 SCR ties attached with stainless steel screw fasteners (ABC Spax) 4 mm diameter by 30 mm long flange-head Pozidrive.

Surface condensation

10.1 The risk of surface condensation in roofs and external walls, and at junction and opening details (see relevant Figures), will be minimal.

Interstitial condensation

10.2 The risk of interstitial condensation will be minimal when the panels are used in conjunction with a vapour check plasterboard lining, or other suitably installed vapour control layer. For the purposes of calculating condensation risk, in accordance with BS 5250 : 2002, vapour diffusion factors (μ) of 30 and 40 may be used for the polystyrene insulation and the OSB/3, respectively.

11 Thermal properties

11.1 Calculations of the thermal transmittance (U value) of specific wall construction should be carried out in accordance with BS EN ISO 6946 : 1997 and BRE report (BR 443 : 2006)


Conventions for U-value calculations using a thermal conductivity of 0.036 Wm⁻¹K⁻¹ for the expanded polystyrene insulation core and 0.13 Wm⁻¹K⁻¹ for the OSB/3 component.

11.2 A typical external wall construction with panels lined internally with 12.5 mm plasterboard on battens and externally with 12.5 mm plasterboard on battens and externally with a 50 mm cavity and brick outer leaf, would achieve a calculated U value of between 0.27 and 0.18 Wm⁻²K⁻¹.


11.3 Walls described in section 11.1 are 23% to 50% better than the Elemental U value of 0.35 Wm⁻²K⁻¹ required by the 2002 Regulations. The panels will therefore contribute to enabling a building to meet the Target Emission Rate 'average' improvement of 20% specified for dwellings in Approved Document L1A. See also sections 11.1 and 11.2 of this Certificate.

11.4 Junctions and opening details (see relevant Figures) maintain insulation continuity, see also section 12.2. The default psi values from Table 3 of BRE Information Paper IP 1/06 *Assessing the effects of thermal bridging at junctions and around openings in the external elements of buildings* and Table K1 of SAP 2005, *The Government's Standard Assessment Procedure for Energy Rating of Dwellings*, may therefore be used in Target Emission Rate calculations to SAP 2005.

11.5 Further guidance on minimising heat loss by conduction and by air infiltration can be found in the TSO publication *Limiting thermal bridging and air leakage : Robust construction details for dwellings and similar buildings*, TSO 2002.


 11.6 External walls can satisfy the Elemental target U value of $0.30 \text{ Wm}^{-2}\text{K}^{-1}$, specified in Table 1 of clause 6.2.1 of the Technical Handbook (Domestic).


11.7 Junctions and opening details (see relevant Figures) maintain insulation continuity and comply with the relevant guidance in BRE report (BR 262 : 2002) *Thermal insulation: avoiding risks* and Annex 6.D of the Technical Handbook (Domestic).

 11.8 External walls in Northern Ireland can satisfy the Elemental target U value of $0.45 \text{ Wm}^{-2}\text{K}^{-1}$, specified in Table 1.2 of Technical Booklet F.


11.9 Opening details shown in Figure 2 maintain adequate insulation continuity in accordance with Diagram 1.4 of Technical Booklet F.


12 Air leakage

 12.1 Care must be taken to seal paths through which heat can be lost by unwanted air infiltration. Particular care is required at junctions, openings and service penetrations. See also section 13.7.


 12.2 Junctions and openings (see relevant Figures) maintain adequate air barrier continuity, see also section 11.5.

12.3 Completed buildings are subject to pre-completion testing for airtightness in accordance with the requirements of section 20B of Approved Document L1A.

 12.4 Junctions and openings (see relevant Figures) will adequately limit heat loss by air infiltration. See section 11.7.

 12.5 The panels and internal lining described in this Certificate will adequately satisfy the relevant requirements of Section 1.35 of Technical Booklet F.

13 Behaviour in relation to fire

 13.1 When tested to BS 476-21 : 1987, the wall panel elements achieved the results shown in Table 3.

13.2 Assessment of test results and design details show that wall panels are suitable for use in external walls, not less than one metre from a relevant boundary, and in separating walls that require fire resistance periods not less than:


- external walls 30⁽¹⁾ minutes (from inside)
- separating walls 60⁽²⁾ minutes (from either side)

(1) Short duration in Scotland.

(2) Medium duration in Scotland.

Table 3 Fire resistance

Fire resistance (minutes)	Axial load (kNm^{-1})	Construction
30	19.72	Single leaf (external wall) 12.5 mm gypsum plasterboard fixed directly to OSB or via 50 mm x 25 mm timber battens using Drywall screws
75	19.72	Double leaf (separating wall) Two layers of 12.5 mm Fermacell gypsum fixed directly to the OSB skin using Drywall screws with 25 mm mineral wool (36 kgm^{-3}) in the cavity between SIP leaves and one layer of 9.5 mm gypsum plasterboard on the exposed face fixed directly to the Fermacell


 13.3 The OSB/3 panel skins have a Class 3⁽¹⁾ surface spread of flame designation.

(1) 'High risk' in Scotland.

13.4 Junctions between the panels in external and separating walls will adequately maintain the fire resistance of the separating wall.

13.5 The panels can form part of a separating wall between dwellings in Scotland in accordance with the exceptions permitted by Mandatory Standard 2.2, clause 2.2.7⁽¹⁾.

(1) Technical Handbook (Domestic).

 13.6 Constructions incorporating the panels must include suitable provision for cavity barriers and for fire stopping at junctions with other elements in accordance with the requirements of national Building Regulations (see Figure 3).

13.7 Where any other form of wall construction incorporating the wall panels (including any service penetrations) is subject to fire-resistance requirements, it is the responsibility of the user to provide details of an appropriate assessment or test must be carried out by a UKAS (United Kingdom Accreditation Service) approved testing laboratory.

14 Proximity of flues and appliances

When installing the product in close proximity to certain flue pipes and/or heat producing appliances, the following provisions to the national Building Regulations are acceptable:

England and Wales

Approved Document J

Scotland


Mandatory Standard 3.18, clauses 3.18.1⁽¹⁾ to 3.18.6⁽¹⁾

(1) Technical Handbook (Domestic).

Northern Ireland

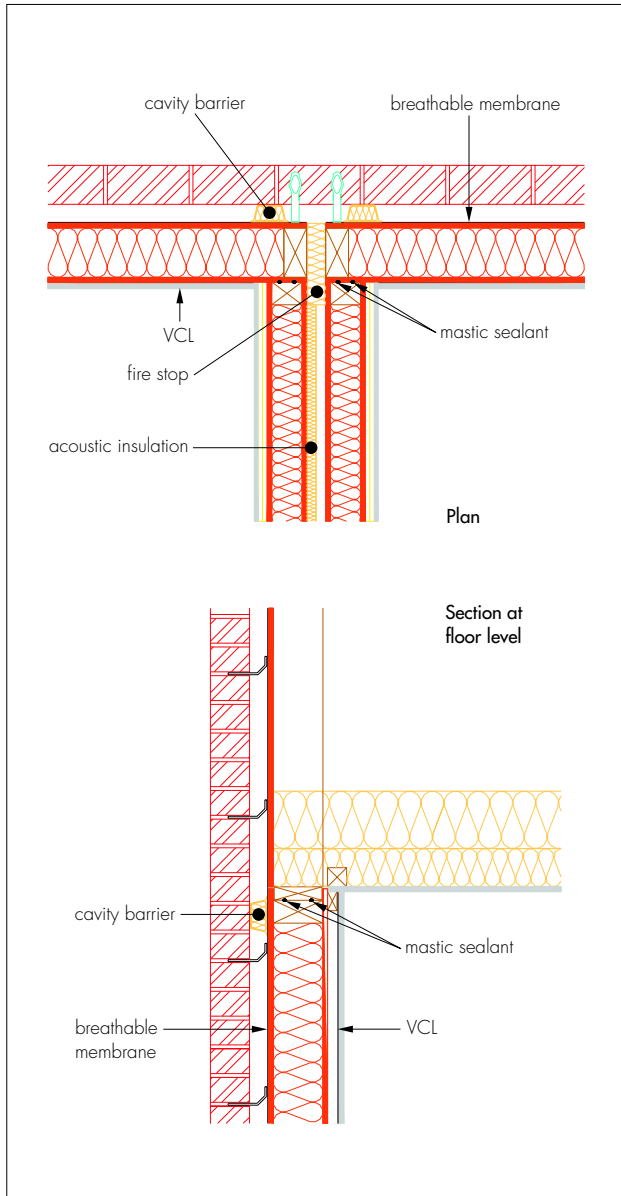
Technical Booklet L.

15 Resistance to airborne sound

 15.1 Good working practice should be adopted for sealing all joints with caulk or tape. Double or treble layers of plasterboard should be staggered. The relevant practices

detailed within *Robust Details Part E — Resistance to the passage of sound* should be adopted.

Figure 3 Separating wall — fire stopping



15.2 A separating wall (see Figure 3) made up as listed below, when subject to field tests to BS EN ISO 140-4 : 1998, achieved an average $D_{nT,w} + C_{tr}$ value of 53:

- 9.5 mm thick plasterboard
- two layer of Fermacell gypsum board
- 104 mm thick Jabsip panel
- 50 mm wide cavity with 25 mm thick paper-faced quilt
- 104 mm thick Jabsip panel
- two layers of Fermacell gypsum board
- 9.5 mm thick plasterboard.

16 Weathertightness

16.1 When the panels are used to form the inner leaf of an external cavity wall, the outer leaf must be designed and constructed in accordance with and BS 5628-3 : 2005 incorporating damp-proof courses and cavity trays. A breather membrane is required with this type of construction.

16.2 When used with other outer leaf construction, cladding or render systems the final weather resistance of the building is dependent upon the efficient positioning and sealing of all joints. The guidance given in Section 3 of BRE report (BR 262 : 2002) should be followed with regard to rain penetration in that the designer selects a construction appropriate to the local wind-driven rain index, paying due regard to the design detailing, workmanship and materials to be used.

16.3 The performance of windows and doors installed within the panels is not covered by this Certificate.

17 Durability

17.1 The wall panels will have comparable durability to that of OSB/3 to BS EN 300 : 1997, therefore, provided the installation remains weather tight, a life of at least 60 years may be expected.

17.2 Timber used in areas that could be at risk, eg screed rails, should be preservative-treated in accordance with the recommendations given in BS 1282 : 1999.

Installation

18 General

18.1 The Vencil Resil Structural Walling System may be readily installed by contractors who have been trained and assessed to undertake this work. Any installation work should follow the details and information contained in the construction drawings, as prepared by the Certificate holder or appointed agent.

18.2 Erection of the wall panels must comply with the details given in the Certificate holder's Construction Manual and the provisions of this Certificate.

18.3 The main contractor must ensure that the accuracy of the foundation is in accordance with the Certificate holder's instructions, in particular, the following details must be within the tolerance of ± 10 mm:

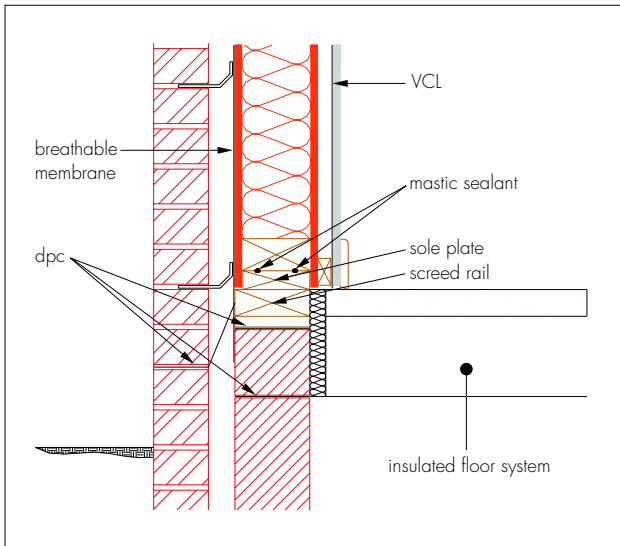
- the level of the foundation or other bearing support
- the overall width and length of the building footprint
- the diagonals used for checking the overall squareness of the building.

19 Procedure

Foundation construction

19.1 A suitable damp-proof course (dpc) is laid on top of the foundation (see Figure 4) onto which a screed rail is fixed to the foundation using fixings as designed by a Chartered Structural Engineer or appropriately Qualified person.

Figure 4 Typical ground-floor construction

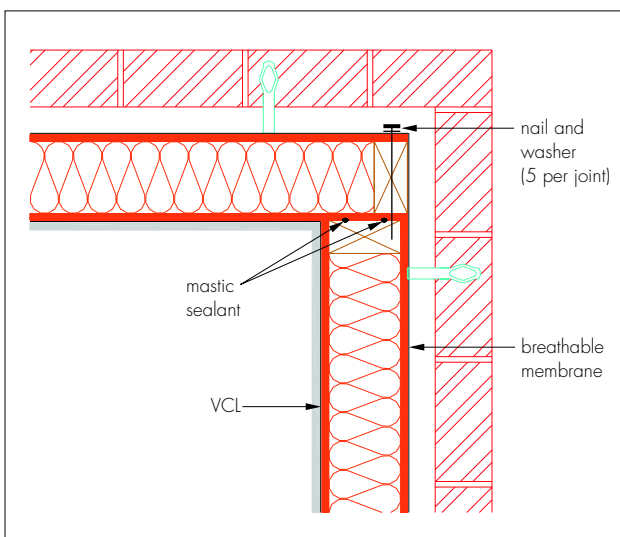


19.2 A sole plate (see Figure 4) is positioned and fixed to the screed rails using fixings as approved by the Certificate holder and the Chartered Structural Engineer's requirements.

Ground-floor construction

19.3 Starting at one corner (see Figure 4), the first panel is positioned correctly on the sole plate, plumbed vertical and then fixed with minimum 2.87 mm diameter by 63 mm long nails at 150 mm centres through the OSB inner and outer skins. This forms the standard basis for connecting all panels to the sole plate. The panel is temporarily braced to maintain stability. The second panel is positioned on the sole plate, plumbed vertical butted to the first (see Figure 5), fixed with five nails and washers and temporarily braced to maintain stability.

Figure 5 Corner detail



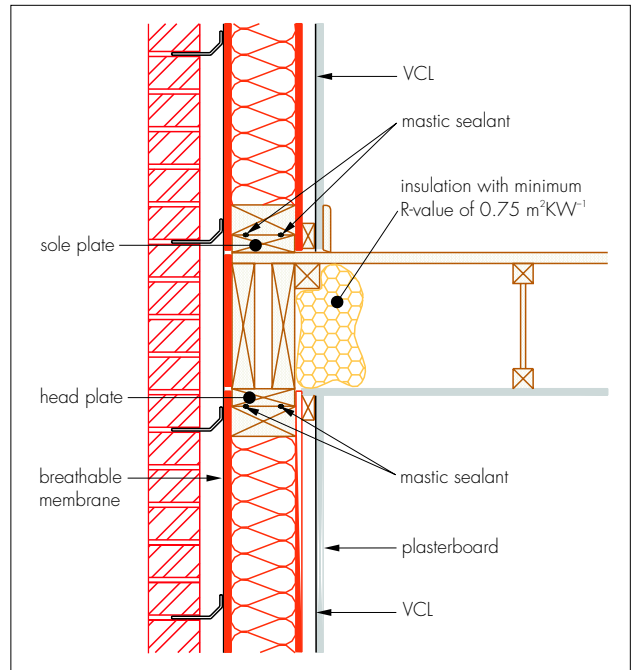
19.4 At in-line panel joints connection is achieved by pushing home the pre-fixed spline (see Figure 1) into the adjacent section of the second in-line panel. The spline is nailed on both sides of each panel with 2.87 mm diameter (minimum) by

63 mm long nails at 150 mm centres through the OSB inner and outer skins.

First and second-floor construction (see Figure 6)

19.5 A head plate (see Figure 6) is positioned and fixed in the top recess of the panel to receive the floor system.

Figure 6 Typical first-floor construction



19.6 Once the floor system has been installed, a sole plate is fixed to the top of the floor system (see Figure 6) in accordance with Chartered Structural Engineer's or appropriately qualified person's requirements. The first-floor corner wall panel is lifted and seated onto the sole and the process continued as in the ground-floor erection (see section 19.3).

Openings – window and door openings

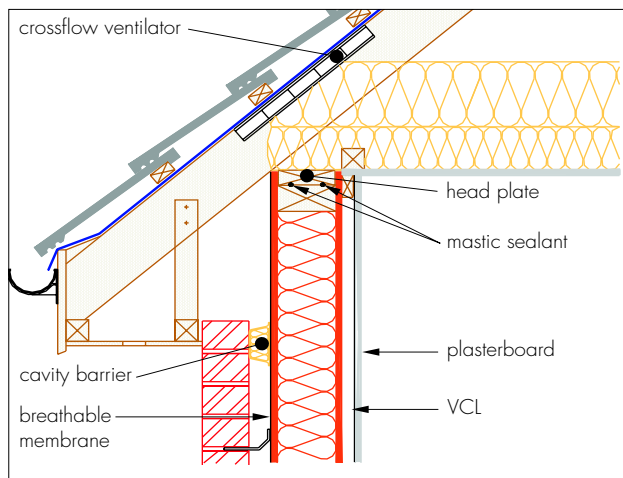
19.7 Openings are formed as part of the factory process. Window frames and door sets are normally installed on site. Small openings for the passing through of pipe work can be formed on site, subject to limits approved by the Certificate holder. The cutting of openings for the installation of electrical sockets and switches is not approved. Instead, a service void is provided between plasterboard lining and face of OSB for this purpose.

19.8 Timber frame wall ties are screwed into the OSB skin of the panels at centres defined in BS DD 140-2 : 1987.

Roof construction (see Figure 7)

19.9 The supporting walls should be fully fixed and made rigid and a head plate positioned and fixed in the top recess of the panel to receive the roof system prior to the commencement of roof construction.

Figure 7 Typical eaves detail — trussed or traditional roof



Technical Investigations

The following is a summary of the technical investigations carried out on the Vencel Resil Jobsip Structural Walling System.

20 Tests

Tests were carried out to determine:

- racking resistance to BS 5268-6.1 : 1996
- vertical loading
- transverse loading
- tensile strength
- compressive strength
- pull-out strength of wall ties based on BS DD 140-2 : 1987 and BS EN 846-6 : 2000
- fire-resistance to BS 476-21 : 1987.

21 Investigations

An examination was made of technical data relating to:

- structural properties and design calculations
- airborne sound insulation tests
- air leakage tests

22 Other investigations

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

22.2 A visit was made to a site to assess the erection process.

Bibliography

BS 476-21 : 1987 *Fire tests on building materials and structures - Methods for determination of the fire resistance of loadbearing elements of construction*

BS 1230-1 : 1985 *Gypsum plasterboard — Specification for plasterboard excluding materials submitted to secondary operations*

BS 1282 : 1999 *Wood preservatives — Guidance on choice, use and application*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS 5268-5 : 1989 *Structural use of timber — Code of practice for the preservative treatment of structural timber*

BS 5268-6.1 : 1996 *Structural use of timber — Code of practice for timber frame walls — Dwellings not exceeding four storeys*

BS 5628-3 : 2005 *Code of practice for the use of masonry — Materials and components, design and workmanship*

BS 6399-2 : 1997 *Loading for buildings — Code of practice for wind loads*

BS DD 140-2 : 1987 *Wall ties — Recommendations for design of wall ties*

BS EN 300 : 1997 *Oriented Strand Boards (OSB) — Definitions, classification and specifications*

BS EN 338 : 2003 *Structural timber — Strength classes*

BS EN 594 : 1996 *Timber structures — Test methods — Racking strength and stiffness of timber frame wall panels*

BS EN 845-1 : 2003 *Specification for ancillary components for masonry — Ties, tension straps, hangers and brackets*

BS EN 846-6 : 2000 *Methods of test for ancillary components for masonry — Determination of tensile and compressive load capacity and load displacement characteristics of wall ties (single end test)*

BS EN 1995-1-1 : 2004 *Eurocode 5 : Design of timber structures — General — Common rules and rules for buildings*

BS EN 13501-1 : 2002 *Fire classification of construction products and building elements. Classification using test data from reaction to fire tests*

BS EN 13163 : 2001 *Thermal insulation products for buildings — Factory made products of expanded polystyrene (EPS) — Specification*

BS EN 14081-1 : 2005 *Timber structures — Strength graded structural timber with rectangular cross section — General requirements*

BS EN ISO 140-4 : *Acoustics — Measurement of sound insulation in buildings and of building elements — Field measurements of airborne sound insulation between rooms*

BS EN ISO 6946 : 1997 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method*

23 Conditions

23.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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.

23.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

23.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant 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.

23.4 In granting this Certificate, the BBA is not responsible for:

- 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
- individual installations of the product or system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

23.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future, nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.



In the opinion of the British Board of Agrément, the Vencel Resil Jabsip Structural Walling System is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 05/4282 is accordingly awarded to Vencel Resil Ltd.

On behalf of the British Board of Agrément

Date of issue: 27th July 2006


Chief Executive

Electronic Copy

British Board of Agrément

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For technical or additional information,
contact the Certificate holder (see
front page).
For information about the Agrément
Certificate, including validity and
scope, tel: Hotline 01923 665400,
or check the BBA website.