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Agrément Certificate
09/4624
Product Sheet 1

URSA PARTIAL AND FULL FILL CAVITY WALL INSULATION

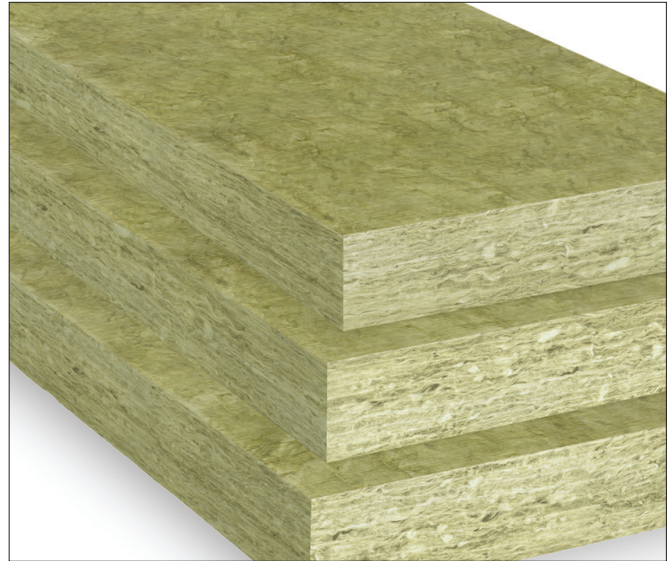
URSA CAVITY BATT 35 INSULATION

This Agrément Certificate Product Sheet⁽¹⁾ relates to Ursa Cavity Batt 35 Insulation, a lightweight, non-combustible, unfaced glass mineral wool slab for use as full or partial fill insulation in external masonry cavity walls.

(1) Hereinafter referred to as 'Certificate'.

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 product has a thermal conductivity (λ_p) of $0.035 \text{ W}\cdot\text{m}^{-1}\cdot\text{K}^{-1}$ (see section 6).

Water resistance — the product will resist water transfer across the cavity of the walls (see section 7).

Condensation — the product will contribute to limiting the risk of condensation (see section 8).

Behaviour in relation to fire — the product has a reaction to fire classification of Class A1 in accordance with BS EN 13501-1 : 2007 (see section 9).

Durability — the product will have a life equivalent to that of the wall structure in which it is incorporated (see section 12).

The BBA has awarded this Agrément Certificate to the company named above for the product described herein. The product 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

John Albon — Head of Approvals
Energy and Ventilation

Claire Curtis-Thomas
Chief Executive

Date of Third issue: 23 July 2015

Originally certificated on 7 August 2009

Certificate amended on 29 June 2017 to update front page image and section 1.

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, Ursa Cavity Batt 35 Insulation, 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(a)	Resistance to moisture
Comment:	The product can contribute to satisfying this Requirement. See section 7.1 of this Certificate.	
Requirement:	C2(b)	Resistance to moisture
Comment:	The product can contribute to satisfying this Requirement. See sections 7.1 and 7.2 of this Certificate.	
Requirement:	C2(c)	Resistance to moisture
Comment:	The product can contribute to satisfying this Requirement. See sections 8.1 and 8.3 of this Certificate.	
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:	The product can contribute to satisfying this Requirement. See section 6 of this Certificate.	
Regulation:	7	Materials and workmanship
Comment:	The product is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.	
Regulation:	26	CO₂ 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 product 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 product can contribute to satisfying this Regulation. See section 12 and the <i>Installation</i> part of this Certificate.	
Regulation:	9	Building standards applicable to Construction
Standard:	2.6	Spread to neighbouring buildings
Comment:	The product has a classification of A1 and is unrestricted by clauses 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See section 9.5 of this Certificate.	
Standard:	3.4	Moisture from the ground
Comment:	The product can contribute to satisfying this Standard, with reference to clauses 3.4.1 ⁽¹⁾⁽²⁾ and 3.4.5 ⁽¹⁾⁽²⁾ . See section 7.1 of this Certificate.	
Standard:	3.10	Precipitation
Comment:	The product can contribute to satisfying this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.3 ⁽¹⁾⁽²⁾ , provided it complies with the conditions set out in sections 7.1 and 7.2 of this Certificate.	
Standard:	3.15	Condensation
Comment:	The product 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 8.2 and 8.3 of this Certificate.	
Standard:	6.1(a)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:	The product can contribute to satisfying clauses, or parts of clauses, 6.1.1 ⁽¹⁾ , 6.1.2 ⁽²⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾⁽²⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽²⁾ , 6.2.5 ⁽²⁾ , 6.2.9 ⁽¹⁾ , 6.2.11 ⁽¹⁾⁽²⁾ and 6.2.13 ⁽²⁾ . See section 6 of this Certificate.	
Standard:	7.1(a)(b)	Statement of sustainability
Comment:	The product 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. In addition, the product can contribute to a construction meeting a higher level of sustainability as defined in this Standard, with reference to clauses 7.1.4 ⁽¹⁾⁽²⁾ [Aspects 1 ⁽¹⁾⁽²⁾ and 2 ⁽¹⁾], 7.1.6 ⁽¹⁾⁽²⁾ [Aspects 1 ⁽¹⁾⁽²⁾ and 2 ⁽¹⁾] and 7.1.7 ⁽¹⁾⁽²⁾ [Aspect 1 ⁽¹⁾⁽²⁾]. See section 6 of this Certificate.	
Regulation:	12	Building standards applicable to conversions
Comment:	All comments given for this product 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 product is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.	
Regulation:	28(a)	Resistance to moisture and weather
Comment:	The product can contribute to satisfying this Regulation. See section 7.1 of this Certificate.	
Regulation:	28(b)	Resistance to moisture and weather
Comment:	The product can contribute to satisfying this Regulation. See sections 7.1 and 7.2 of this Certificate.	

Regulation:	29	Condensation
Comment:		The product can contribute to satisfying this Regulation. See section 8.3 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Regulation:	40(2)	Target carbon dioxide emission rate
Comment:		The product can contribute to satisfying these Regulations. See section 6 of this Certificate.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, Principal Designer/CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.4) of this Certificate.

Additional Information

NHBC Standards 2014

NHBC accepts the use of Ursa Cavity Batt 35 Insulation provided it is installed, used and maintained in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 6.1 *External masonry walls*.

CE marking

The Certificate holder has taken the responsibility of CE marking the product, in accordance with harmonised European Standard BS EN 13162 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown is given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 Ursa Cavity Batt 35 Insulation is an olive green, mineral wool slab of homogeneous texture which has been treated with silicon-based, water-repellent additive.

1.2 The product has a nominal length of 1200 mm, width of 455 mm and thickness in the range of 75 mm to 150 mm.

2 Manufacture

2.1 Insulation slabs are manufactured using conventional fully-automated techniques.

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.

2.3 The management system of URSA UK Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by LGA (Certificate QM-1903108).

3 Delivery and site handling

3.1 The slabs are delivered to site in polythene-wrapped packs. Each pack contains a label with the manufacturer's name, slab dimensions and the BBA logo incorporating the number of this Certificate.

3.2 On site, the product should be stored clear of the ground, on a clean level surface and preferably under cover to protect it from prolonged exposure to moisture or mechanical damage.

3.3 Partially-completed walls should be protected from inclement weather (wind, rain and snow) and covered at the end of a day's work.

3.4 It is recommended that dust masks, gloves and long sleeved clothing should be worn during cutting and handling the product. Large-scale machining should be connected to a dust extraction system.

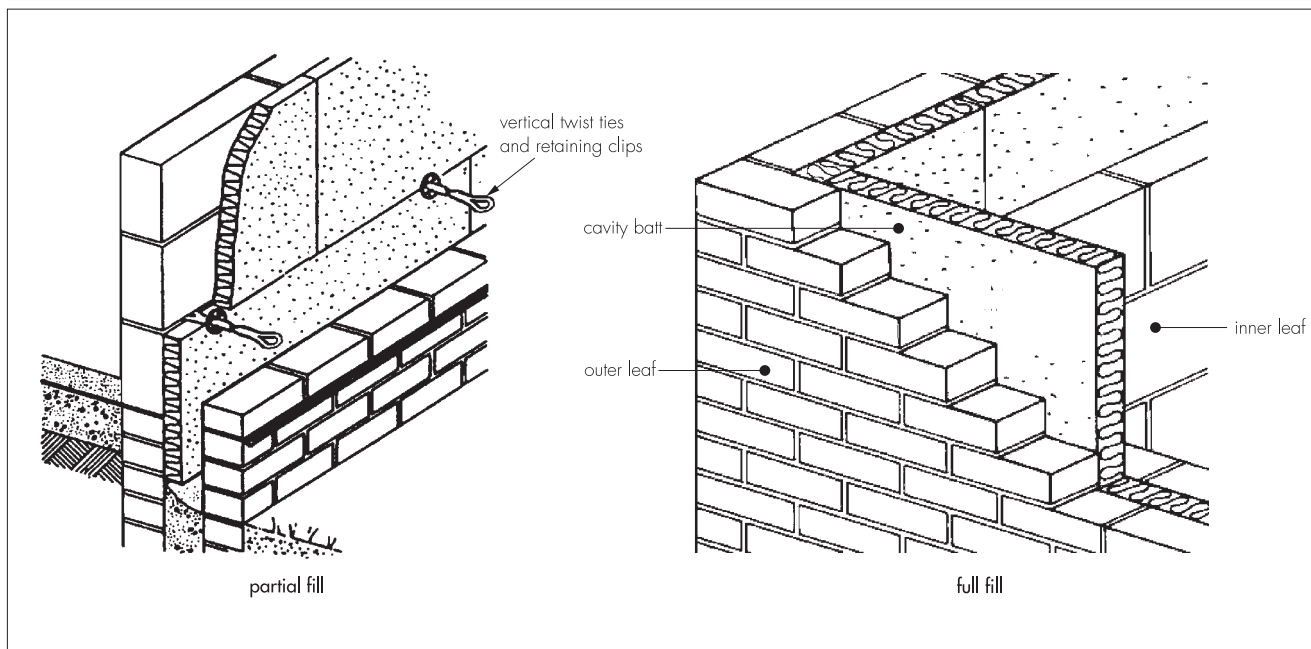
Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Ursa Cavity Batt 35 Insulation.

4 General

4.1 Ursa Cavity Batt 35 Insulation is satisfactory for use as partial and full fill cavity wall insulation and is effective in reducing the thermal transmittance (U value) of cavity walls with masonry inner and outer leaves (as shown in Figure 1), where masonry includes clay and calcium silicate bricks, concrete blocks, and natural and reconstituted stone blocks. The product is for use in new and existing domestic and non-domestic buildings, without height restriction for partial fill (additional requirements apply above 12 m) and up to 25 m for full fill. It is essential that walls are designed and constructed to incorporate the precautions given in this Certificate to prevent moisture penetration.

Figure 1 Partial fill and full fill cavity insulation



4.2 Buildings subject to national Building Regulations should be constructed in accordance with the relevant recommendations of:

- 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
- BS EN 845-1 : 2013.

4.3 Other new buildings not subject to these Regulations should also be built in accordance with the Standards given in section 4.2 of this Certificate.

4.4 The use of cavity battens and/or boards during construction is strongly recommended to prevent bridging by mortar droppings.

4.5 It is recommended that installation is continuous up to the highest level on each wall. If it is terminated at any other level, the top edge of the insulation must be protected by a cavity tray with stopends and weepholes at alternative perpend (full fill). The cavity must be capped in brick, block or suitable board material (partial fill).

4.6 Cavity wall ties with insulation-retaining fixings and, if required, any additional ties to BS EN 845-1 : 2013 should be used for structural stability in accordance with BS EN 1996-1-1 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006.

Full fill use

Buildings up to and including 12 m in height



4.7 The design conditions to be followed are:

- that the insulation completely fills the cavity
- that the insulation thickness should remain constant where possible. Should any change in vertical thickness occur, a horizontal damp-proof cavity tray should separate each thickness change
- that a minimum thickness of 50 mm be maintained where possible. Where, for structural reasons, the insulation thickness is reduced, eg by the intrusion of ring beams, a minimum thickness of 25 mm insulation should be maintained and the manufacturer's advice on fixing and weatherproofing sought.

Buildings over 12 m high and up to and including 25 m high

4.8 Where the walls of a building are between 12 m and 25 m high, the following requirements also apply:

- from ground level, the maximum height of continuous cavity must not exceed 12 m. Above 12 m, the maximum height of continuous cavity must not exceed 7 m
- the area to be insulated must not be an infill panel in a framed structure
- the Certificate holder, in association with the architect, shall carry out a detailed programme of assessment of the project including an examination of the quality of installation as work progresses. Above average site supervision is recommended during installation
- Certification relates only to buildings where the Certificate holder has given written approval for use of the product on the specified building.

Partial fill use

Buildings up to and including 12 m high

4.9 The residual cavity width to be maintained during construction must be a minimum of 25 mm. To achieve this, a greater nominal residual cavity width may need to be specified at the design stage (to allow for inaccuracies inherent in the building process). The specifier may either:

- design a nominal residual cavity width of 50 mm (a residual cavity nominally at least 50 mm wide will be required by the NHBC), or
- design a cavity width which takes into account the dimensional tolerances of the components which make up the wall (by reference to the British Standards relating to the bricks, blocks and boards, or by using the data from the respective manufacturers). Allowances may need to be made for the quality of building operatives and the degree of site supervision or control available. The limitations in respect of exposure of the proposed building as set out in Table 1 must also be observed.

Table 1 Maximum allowable total exposure factors of different constructions

Construction	Maximum allowable exposure factor (E) ⁽¹⁾
All external masonry walls protected by: rendering (to BS EN 13914-1 : 2005); tile hanging; slate hanging; or timber, plastic or metal weatherboarding or cladding	No restriction
One or more external masonry walls constructed from facing clay brickwork or natural stone, the porosity of which exceeds 20% by volume. Mortar joints must be flush-pointed or weatherstruck	100
One or more external masonry walls constructed from calcium silicate bricks, concrete blocks, reconstituted stone, or natural stone, the porosity of which is less than 20% by volume, or any material with raked mortar joints	88

(1) To BS 5618 : 1985.

4.10 An external render coat or other suitable finish should be applied in locations where such application would be normal practice; care should be taken to ensure that the residual cavity is not bridged by mortar.

Buildings over 12 m in height

4.11 The width of the residual clear cavity to be achieved is to be in excess of 50 mm, and the following requirements apply:

- from ground level, the maximum height of continuous cavity walls must not exceed 12 m. Above 12 m, the maximum height of continuous cavity walls must not exceed 7 m. In both cases, breaks should be in the form of continuous horizontal cavity trays and weepholes discharging to the outside
- the specifier must take extra care when detailing to ensure that the introduction of the insulation does not affect the weather resistance of the wall. Above average site supervision is recommended during installation of the products
- where, for structural reasons, the cavity width is reduced, eg by the intrusion of ring beams, a minimum residual cavity width of 25 mm must be maintained and extra care must be taken with fixings and weatherproofing, eg the inclusion of cavity trays with weepholes.

5 Practicability of installation

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

6 Thermal performance

6.1 Calculations of the thermal transmittance (U value) should be carried out in accordance with BS EN ISO 6946 : 2007 and BRE Report BR 443 : 2006, using the Declared thermal conductivity* (λ_D) of 0.035 W·m⁻¹·K⁻¹.

6.2 The U value of a typical brick and block cavity wall construction will depend on the cavity width and the insulating value of the internal block leaf finish. Calculated U values for sample constructions are given in Table 2 and Table 3 of this Certificate.

Table 2 Example cavity wall U values⁽¹⁾ — full fill construction

U value requirement (W·m ⁻² ·K ⁻¹) ⁽¹⁾	Insulation thickness (mm) ⁽²⁾	
	13 mm dense plaster ⁽³⁾ 100 mm dense block ⁽⁵⁾	Plasterboard on dabs ⁽⁴⁾ 100 mm AAC block ⁽⁶⁾
0.18	175	150
0.19	175	140
0.25	130	100
0.26	125	95
0.27	120	90
0.30	105	75
0.35	90	60

(1) Assumes 102 mm thick brick outer leaf and mild steel double-triangle ties (12.5 mm²) at 2.5 m².

(2) Based upon incremental insulation thickness of 5 mm.

(3) Dense plaster 0.57 W·m⁻¹·K⁻¹.

(4) 20% dabs at 0.43 W·m⁻¹·K⁻¹.

(5) Dense block at 1.13 W·m⁻¹·K⁻¹.

(6) AAC block at 0.12 W·m⁻¹·K⁻¹ and 6.7% mortar (0.88 W·m⁻¹·K⁻¹) bridging inner block leaf.

Table 3 Example cavity wall U values⁽¹⁾ — partial fill construction

U value requirement (W·m ⁻² ·K ⁻¹) ⁽¹⁾	Insulation thickness (mm) ⁽²⁾	
	13 mm dense plaster ⁽³⁾ 100 mm dense block ⁽⁵⁾	Plasterboard on dabs ⁽⁴⁾ 100 mm AAC block ⁽⁶⁾
0.18	170	145
0.19	165	135
0.25	125	95
0.26	120	90
0.27	115	85
0.30	95	70
0.35	80	55

(1) Assumes 102 mm thick brick outer leaf, mild steel double-triangle ties (12.5 mm²) at 2.5 m² and 50 mm air cavity.

(2) Based upon incremental insulation thickness of 5 mm.

(3) Dense plaster 0.57 W·m⁻¹·K⁻¹.

(4) 20% dabs at 0.43 W·m⁻¹·K⁻¹.

(5) Dense block at 1.13 W·m⁻¹·K⁻¹.

(6) AAC block at 0.12 W·m⁻¹·K⁻¹ and 6.7% mortar (0.88 W·m⁻¹·K⁻¹) bridging inner block leaf.


6.3 The product can maintain, or contribute to maintaining, continuity of thermal insulation at junctions between elements. For Accredited Construction Details, the corresponding ψ -values (psi) in BRE Information Paper IP 1/06, Table 3, may be used in carbon emission calculations in Scotland and Northern Ireland. Detailed guidance for other junctions and on limiting heat loss by air infiltration can be found in:

England and Wales — Approved Documents to Part L, and for new thermal elements to existing buildings, Accredited Construction Details (version 1.0). Also see SAP 2012 *The Government's Standard Assessment Procedure for Energy Rating of Dwellings*, Appendix K and the *iSBEM User Manual* for new-build

Scotland — Accredited Construction Details (Scotland)

Northern Ireland — Accredited Construction Details (version 1.0).

7 Water resistance

 7.1 When the product is used in situations where it bridges the damp-proof course (dpc) in walls, dampness from the ground will not pass through to the inner leaf provided the wall is detailed in accordance with the requirements and provisions of the national Building Regulations:

England and Wales — Approved Document C, section 5

Scotland — Mandatory Standard 3.4, clause 3.4.1⁽¹⁾⁽²⁾ and 3.4.5⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet C, Section 1.6.

7.2 Tests for full fill applications confirm that constructions built in accordance with BS EN 1996 : 2006 will prevent water reaching the inner leaf in damaging amounts. Water penetrating the outer leaf of the wall will drain down the cavity face of the outer leaf and the product will contribute to satisfying the national Building Regulations:

England and Wales — Approved Document C, section 5

Scotland — Mandatory Standard 3.10, clauses 3.10.1⁽¹⁾⁽²⁾ and 3.10.3⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet C, Section 2.

7.3 In all situations it is particularly important to ensure during installation that:

- cavity wall ties are installed correctly and are thoroughly clean and slope downwards towards the outer face of the construction
- excess mortar is cleaned from the cavity face of the leading leaf and any debris removed from the cavity
- mortar droppings are cleaned from the exposed edges of installed slabs
- insulation slabs are properly installed and butt-jointed
- installation is carried out to the highest level on each wall, or the top edge of the insulation is protected by a cavity tray
- at lintel level, a cavity tray, stop ends and weep holes are provided
- cavity battens and/or boards are used during construction to prevent bridging by mortar droppings
- damp-proof course membranes at ground level do not project into the cavity as they can form a trap for mortar bridging
- raked or recessed mortar joints are avoided in very severe exposure areas.

8 Condensation

Surface condensation



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



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

Interstitial condensation



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

8.4 The product has a nominal vapour resistivity of $5 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}\cdot\text{m}^{-1}$.

9 Behaviour in relation to fire



9.1 The product is classified as 'non-combustible' and has a reaction to fire classification of Class A1* to BS EN 13501-1 : 2007.

9.2 The requirements of the national Building Regulations relating to fire spread in cavity walls can be met in buildings of all purpose groups without the need for cavity barriers, where the cavity is fully filled or the construction complies with the provisions detailed in:

England and Wales — Approved Document B, Volume 1, Diagram 13, and Volume 2, Diagram 34

Northern Ireland — Technical Booklet E, Diagram 4.5.

9.3 For buildings subject to the Building Standards in Scotland, cavity barriers are not required to limit the area of a cavity or at junctions with other wall cavities. Cavity barriers are required around openings, penetrations and junctions with roof or floor cavities, with reference to clauses 2.4.1⁽¹⁾⁽²⁾, 2.4.2⁽¹⁾⁽²⁾, 2.6.5⁽¹⁾ and 2.6.6⁽²⁾.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

9.4 For constructions not covered by sections 9.2 and 9.3, cavity barriers must be provided to comply with:

England and Wales — Approved Document B, Volume 1, Section 6, and Volume 2, Section 9

Scotland — Mandatory Standard 2.4, clauses 2.4.1⁽¹⁾⁽²⁾, 2.4.2⁽¹⁾⁽²⁾, 2.4.7⁽¹⁾ and 2.4.9⁽²⁾.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet E, Paragraphs 4.36 to 4.39.



9.5 The product is classified as 'non-combustible' and this means that it is unrestricted by clauses 2.6.5⁽¹⁾ and 2.6.6⁽²⁾.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

10 Proximity of flues and appliances

When installing the product in close proximity to certain flue pipes and/or heat producing appliances, the relevant provisions of the documents supporting the national Building Regulations are applicable:

England and Wales — Approved Document J, sections 1 to 4

Scotland — Mandatory Standard 3.19, clauses 3.19.1⁽¹⁾⁽²⁾ to 3.19.9⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet L, section 2.

11 Maintenance

As the product is confined within the wall cavity and has suitable durability, maintenance is not required (see section 12).

12 Durability



The product is unaffected by the normal conditions in a wall construction, and is durable, rot-proof, water resistant and sufficiently stable to remain effective as insulation for the life of the building.

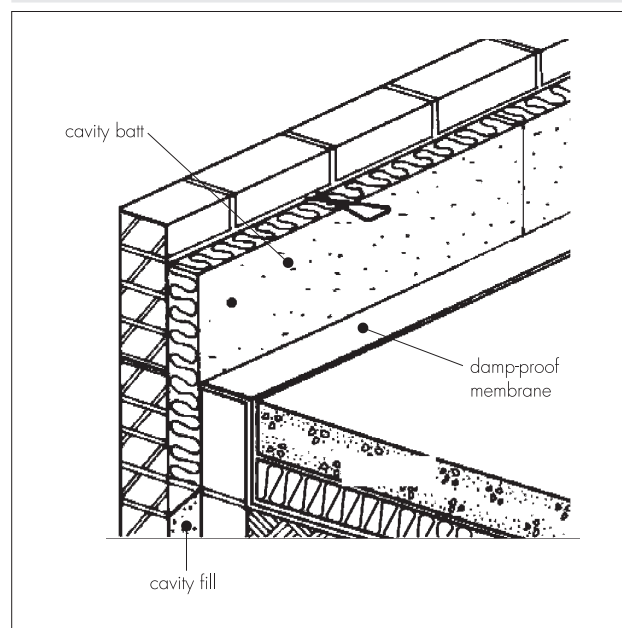
Installation

13 General

13.1 The internal leaf is constructed ahead of the external leaf, with the first row of wall ties where the insulation is to begin, but not on the dpc, and at approximately 600 mm horizontal spacing. Any mortar protruding into the cavity space from the back of the internal leaf should be cleaned off before installing the product.

13.2 The first run of slabs may commence below dpc level to provide some edge insulation for the floor (see Figure 2).

Figure 2 Building in the first row of slabs



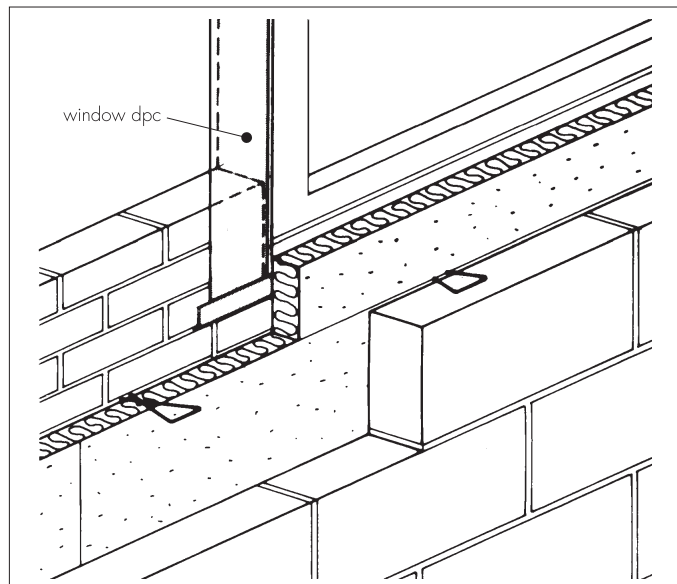
13.3 A section of the wall leaf is built up to a course above the next row of wall ties, which are placed at the usual spacing of 450 mm vertically and not more than 900 mm horizontally (see BS EN 1996 : 2006).

13.4 The product is placed between the upper and lower wall ties to form a closely butt-jointed run. It is essential that all wall ties slope downwards towards the outer leaf.

13.5 Additional ties (see Figure 3) may be required to satisfy the structural requirements of BS EN 845-1 : 2013, BS EN 1996-1-1 : 2005, BS EN 1996-2 : 2006 and BS EN 1996-3 : 2006 to ensure adequate retention of boards or cut pieces.

13.6 The product can be 'slit' with a sharp knife to allow wall ties through. Cut sections of the product may be required around openings or at corners. It is essential that these are cut accurately to fill the spaces for which they are intended, and are adequately secured.

Figure 3 Reveal detail with double ties



13.7 The product can be cut using a knife, to fit around windows, doors and air bricks. It is essential that it is cut accurately so that the cut pieces completely fill the spaces for which they are intended and that no gaps are left in the insulation.

13.8 The other leaf is then built up to the same level as the product, and the process repeated.

14 Procedure

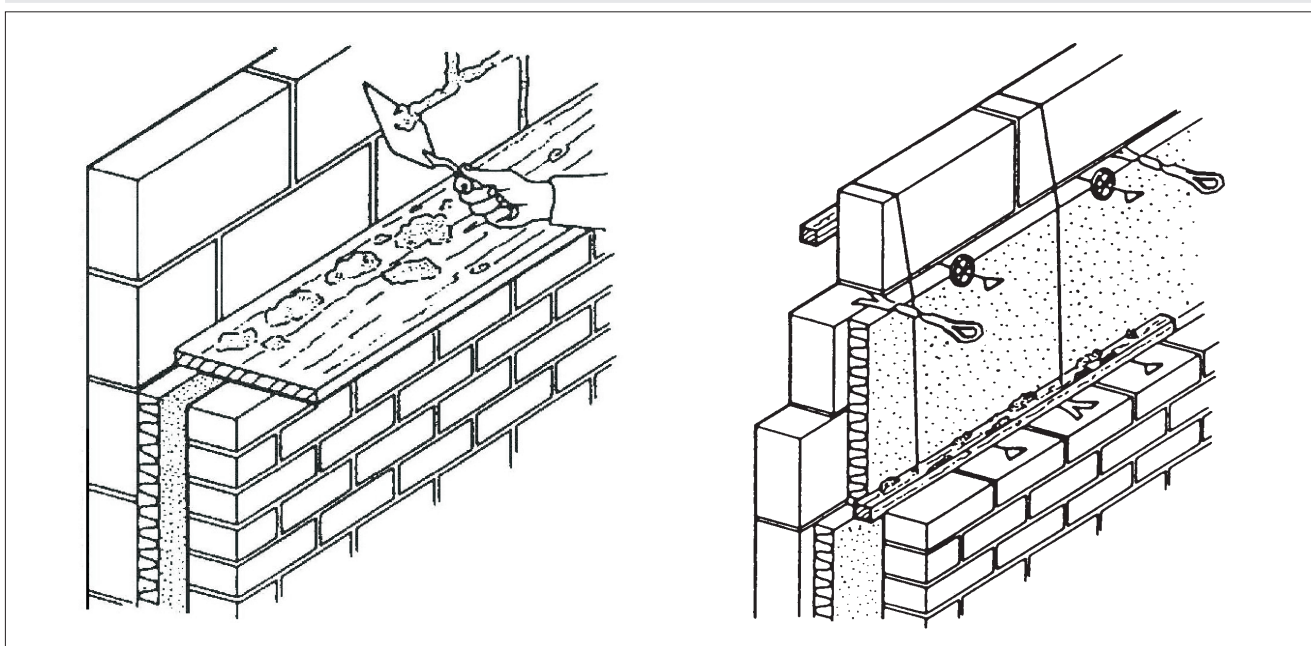
14.1 Walls are constructed in the conventional manner (see section 4).

14.2 Successive sections of wall, incorporating wall ties, are constructed and the product installed as work proceeds up to the required height.

Mortar Droppings

14.3 After each section of the wall leaf is built, excess mortar should be removed and mortar droppings cleaned from exposed edges of the installed product before installation of the next section. Use of a cavity board or a cavity batten will protect the installed board edges and help to keep the cavity clean as the following leaf is built (see Figure 4).

Figure 4 Use of cavity board or batten when cleaning off excess mortar

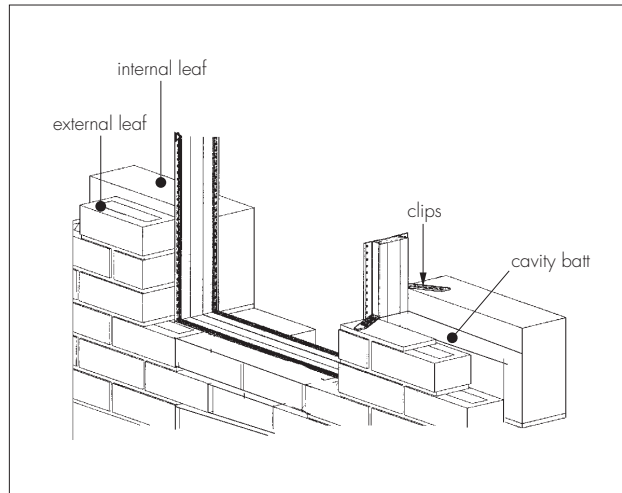


Wall openings

14.4 Where openings such as doors and windows are in close proximity, it is recommended that a continuous lintel or cavity tray is used. Damp-proofing at lintel level must be provided with stopends and be adequately drained.

14.5 Where required, door and window reveals should incorporate a cavity closer depending on the set-back of the frame (see Figure 5). It is recommended that BBA-approved cavity closers are used.

Figure 5 Reveal details with cavity closer



14.6 For full fill application, it is recommended that when the outer leaf is built, the inner face is in contact with the product and also the permitted deviation in the cavity width is as shown in Table 4.

Table 4 Deviation in cavity width

Insulation thickness (mm)	Permitted deviation (mm)
75	75 to 90
100	100 to 115
125	125 to 140
150	150 to 170

Protection

14.7 Exposed areas of slabs should always be covered at the end of a day's work or in driving rain.

Technical Investigations

15 Tests

The following tests were carried out on Ursa Cavity Batt 35 Insulation:

- rain penetration
- thermal conductivity
- product characteristics:
 - refractive index
 - ash content
 - water absorption
- density.

16 Investigations

16.1 The following investigations were carried out:

- thermal performance
- condensation risk analysis
- manufacturing process
- thermal conductivity data
- fire data.

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

Bibliography

- BS 5250 : 2011 *Code of practice for control of condensation in buildings*
- BS 5618 : 1985 *Code of practice for thermal insulation of cavity walls (with masonry or concrete inner and outer leaves) by filling with urea-formaldehyde (UF) foam systems*
- BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*
- BS EN 845-1 : 2013 *Specification for ancillary components for masonry — Wall ties, tension straps, hangers and brackets*
- 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*
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- BS EN 13162 : 2012 *Thermal insulation products for buildings — Factory made mineral wool (MW) products - Specification*
- BS EN 13501-1 : 2007 *Fire classification of construction products and building elements — Classification using test data from reaction to fire tests*
- BS EN 13914-1 : 2005 *Design, preparation and application of external rendering and internal plastering — External rendering*
- BS EN ISO 6946 : 2007 *Building components and building elements — Thermal resistance and thermal transmittance — Calculation method*
- BS EN ISO 9001 : 2008 *Quality management systems — Requirements*
- BRE Information Paper IP 1/06 *Assessing the effects of thermal bridging at junctions and around openings*
- BRE Report (BR 262 : 2002) *Thermal insulation: avoiding risks*
- BRE Report (BR 443 : 2006) *Conventions for U-value calculations*

17 Conditions

17.1 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.

17.2 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.

17.3 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.

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

17.5 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
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- 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.

17.6 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.