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Agrément Certificate

88/2033

Product Sheet 1 Issue 5

SUPAFIL CAVITY WALL INSULATION

SUPAFIL 40

This Agrément Certificate Product Sheet⁽¹⁾ relates to Supafil⁽²⁾ 40, a granulated glass mineral wool fibre material injected in loose form, for use in external masonry walls up to and including 12 metres in height, with cavity widths not less than 50 mm, in new and existing domestic and non-domestic buildings. The product may also be used in buildings over 12 metres in height where a height restriction waiver has been issued by the Certificate holder.

(1) Hereinafter referred to as 'Certificate'.

(2) Supafil is a registered trademark.

The assessment includes

Product factors:

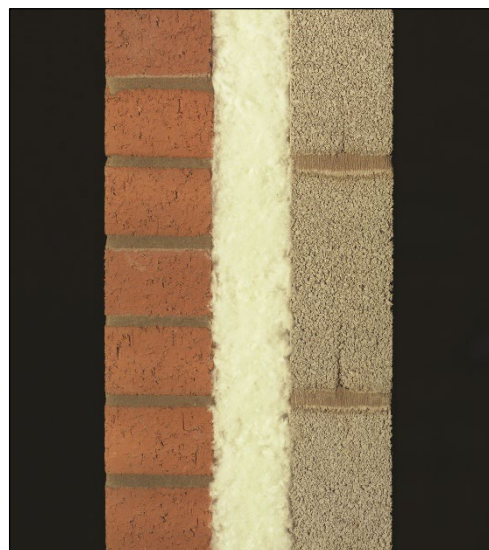
- compliance with Building Regulations
- compliance with additional regulatory or non-regulatory information where applicable
- evaluation against technical specifications
- assessment criteria and technical investigations
- uses and design considerations

Process factors:

- compliance with Scheme requirements
- installation, delivery, handling and storage
- production and quality controls
- maintenance and repair

Ongoing contractual Scheme elements†:

- regular assessment of production
- formal 3-yearly review



KEY FACTORS ASSESSED

- Section 1. Mechanical resistance and stability
- Section 2. Safety in case of fire
- Section 3. Hygiene, health and the environment
- Section 4. Safety and accessibility in use
- Section 5. Protection against noise
- Section 6. Energy economy and heat retention
- Section 7. Sustainable use of natural resources
- Section 8. Durability

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

Date of Fifth issue: 28 April 2025

Originally certified on 14 September 1988

Hardy Giesler
Chief Executive Officer

This BBA Agrément Certificate is issued under the BBA's Inspection Body accreditation to ISO/IEC 17020. Sections marked with † are not issued under accreditation.

The BBA is a UKAS accredited Inspection Body (No. 4345), Certification Body (No. 0113) and Testing Laboratory (No. 0357).

Readers MUST check that this is the latest issue of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

The Certificate should be read in full as it may be misleading to read clauses in isolation.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément

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SUMMARY OF ASSESSMENT AND COMPLIANCE

This section provides a summary of the assessment conclusions; readers should refer to the later sections of this Certificate for information about the assessments carried out.

Compliance with Regulations

Having assessed the key factors, the opinion of the BBA is that Supafil 40, 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 Building Regulations 2010 (England and Wales) (as amended)

Requirement:	B4(1)	External fire spread
Comment:		The product is unrestricted by this Requirement. See section 2 of this Certificate.
Requirement:	C2(a)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See section 3 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See section 3 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See section 3 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The product can contribute to satisfying this Requirement; however, compensating fabric measures may be required. See section 6 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	7(2)	Materials and workmanship
Comment:		The product is unrestricted by this Requirement. See section 2 of this Certificate.
Regulation:	25B	Nearly zero-energy requirements for new buildings
Regulation:	26	CO₂ emission rates for new buildings
Regulation:	26A	Fabric energy efficiency rates (applicable to England only)
Regulation:	26A	Primary energy efficiency rates for new buildings (applicable to Wales only)
Regulation:	26B	Fabric performance values for new dwellings (applicable to Wales only)
Regulation:	26C	Target primary energy rates for new buildings (applicable to England only)
Regulation:	26C	Energy efficiency rating (applicable to Wales only)
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric/service measures may be required. See section 6 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	8(3)	Fitness and durability of materials and workmanship
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.

Regulation:	9	Building standards – construction
Standard:	2.6	Spread to neighbouring buildings
Comment:		The product is unrestricted by this Standard, with reference to clauses 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See section 2 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 3 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product can contribute to satisfying this Standard, with reference to clause 3.10.1 ⁽¹⁾⁽²⁾ . See section 3 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 section 3 of this Certificate.
Standard:	6.1(b)(c)	Energy demand
Comment:		The product can contribute to satisfying this Standard with reference to clauses 6.1.1 ⁽¹⁾ and 6.1.2 ⁽²⁾ ; however, compensating fabric/service measures may be required. See section 6 of this Certificate.
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying this Standard, with reference to clauses, or parts of, 6.2.1 ⁽¹⁾⁽²⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽²⁾ , 6.2.6 ⁽¹⁾ , 6.2.7 ⁽¹⁾⁽²⁾ , 6.2.8 ⁽¹⁾ , 6.2.9 ⁽¹⁾ , 6.2.10 ⁽²⁾ and 6.2.12 ⁽¹⁾ ; however, compensating fabric measures may be required. 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 at least 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⁾ , 7.1.6 ⁽¹⁾⁽²⁾ , 7.1.7 ⁽¹⁾ , 7.1.9 ⁽²⁾ and 7.1.10 ⁽²⁾ . See section 6 of this Certificate.
Regulation:	12	Building standards – conversion
Comment:		All comments given for the 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(1)(a)(i)	Fitness of materials and workmanship
Comment:	(iii)(b)(i)(ii)	The product is acceptable. See sections 8 and 9 of this Certificate.
Regulation:	23(2)	Fitness of materials and workmanship
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.
Regulation:	28(a)	Resistance to moisture and weather
Comment:		The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The product can contribute to satisfying this Regulation. See section 3 of this Certificate.

Regulation:	29	Condensation
Comment:		The product can contribute to satisfying this Regulation. See section 3 of this Certificate.
Regulation:	36(a)	External fire spread
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.
Regulation:	39(a)(i)	Conservation measures
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric measures may be required. See section 6 of this Certificate.
Regulation:	40(2)	Target carbon dioxide emission rate
Regulation:	43(1)(2)	Renovation of thermal elements
Regulation:	43B	Nearly zero-energy requirements for new buildings
Comment:		The product can contribute to satisfying these Regulations; however, compensating fabric/service measures may be required. See section 6 of this Certificate.

Additional Information

NHBC Standards 2025

In the opinion of the BBA, Supafil 40, 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*.

Fulfilment of Requirements

The BBA has judged Supafil 40 to be satisfactory for use as described in this Certificate. The product has been assessed as cavity wall insulation injected in loose form, for use in external cavity walls, with cavity widths not less than 50 mm, in new and existing domestic and non-domestic buildings.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Supafil 40 consists of granulated glass mineral wool fibre material, treated with silicone oil as a water-repellent additive.

The product is satisfactory for use as an injected cavity wall insulation and is effective in reducing the thermal transmittance (U value) of external cavity walls with masonry inner and outer leaves (where masonry includes clay and calcium silicate bricks, concrete blocks, and natural and reconstituted stone blocks). Where natural stone is used, it must be dressed so that the cavity formed is uniform and both faces are parallel.

The product is for use in new and existing domestic and non-domestic buildings up to and including 12 metres in height, and also over 12 metres where a height restriction waiver has been issued by the Certificate holder, with cavity widths not less than 50 mm.

This Certificate covers the use of the product in the following hard to treat (HTT) applications:

- a building in excess of 12 metres in height (see sections 9.1.18 and 9.1.19).

Product assessment – key factors

The product was assessed for the following key factors, and the outcome of the assessment is shown below. Conclusions relating to the Building Regulations apply to the whole of the UK unless otherwise stated.

1 Mechanical resistance and stability

Not applicable.

2 Safety in case of fire

Data were assessed for the following characteristics.

2.1 Reaction to Fire

2.1.1 The product was tested for organic content by weight and the results are given in Table 1.

Table 1 Organic content by weight⁽¹⁾

Product assessed	Assessment method	Requirement	Result
Supafil 40	BS EN 13820 : 2003	Value achieved	≤ 1%
	BS EN 14064-1 : 2018		

(1) Exova (UK) Ltd. Report No. N971880. 18 October 2017, available from the Certificate holder on request.

2.1.2 On the basis of data assessed, , the reaction to fire classification of the product is Class A1.

2.1.3 On the basis of data assessed, the product will be unrestricted in use under the documents supporting the national Building Regulations.

2.1.4 Designers must refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity closers and barriers, fire stopping of service penetrations and combustibility limitations for other materials and components used in the overall wall construction.

3 Hygiene, health and the environment

Data were assessed for the following characteristics.

3.1 Weathertightness

3.1.1 An adequacy of fill test and a rain penetration test for the product injected into a cavity wall was carried out and the results are given in Table 2.

Table 2 Weathertightness

Product assessed	Assessment method	Requirement	Result
Supafil 40	Adequacy of fill to a BBA method	Even fill with no voids	Pass
	Rain penetration to a BBA method	No water transfer to inner skin	Pass

3.1.2 On the basis of data assessed, constructions incorporating the product, and built in accordance with the Standards and Requirements listed in section 9 of this Certificate, will resist the transfer of precipitation to the inner leaf and satisfy the requirements of the national Building Regulations.

3.2 Effectiveness against rising damp

3.2.1 The product was tested for short-term water absorption by partial immersion and the results are given in Table 3.

Table 3 Short-term water absorption by partial immersion

Product assessed	Assessment method	Requirement	Result
Supafil 40	BS EN 1609 : 1997 (Method A)	Value achieved	≤ 1.0 kg·m ⁻²

3.2.2 On the basis of the data assessed, the product may be 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.

3.3 Water vapour permeability

3.3.1 The product was tested for water vapour resistivity and the results are given in Table 4.

Table 4 Water vapour resistivity

Material	Assessment method	Requirement	Result
Supafil 40	BS EN ISO 10456 : 2007	Value achieved	5 MN·s·g ⁻¹ ·m ⁻¹

3.3.2 For the purposes of assessing the risk of condensation, the water vapour resistivity value may be taken as stated in Table 4.

4 Safety and accessibility in use

Not applicable.

5 Protection against noise

Not applicable.

6 Energy economy and heat retention

Data were assessed for the following characteristics.

6.1 Thermal conductivity

The product was assessed for thermal conductivity and the result is given in Table 5.

Table 5 Thermal conductivity

Product assessed	Assessment method	Requirement	Result
Supafil 40	BS EN 12667 : 2001	Declared value (λ_D)	0.040 W·m ⁻¹ ·K ⁻¹
	BS EN 14064-1 : 2018		

6.2 Thermal performance

6.2.1 The U value of a completed wall will depend on the product used, the cavity width and wall structure, and its internal finish. Example U values are given in Tables 6 and 7.

Table 6 Example cavity wall U values — existing/retained walls

Cavity width/insulation thickness (mm)	U values (W·m ⁻² ·K ⁻¹) ⁽¹⁾	
	13 mm dense plaster ⁽²⁾ , 100 mm dense block ⁽³⁾	12.5 mm plasterboard on dabs ⁽⁴⁾ , 100 mm AAC block ⁽⁵⁾
50	0.60	0.42
75	0.44	0.33
100	0.34	0.27
125	0.28	0.23

- (1) 102.5 mm thick brick outer leaf (0.77 W·m⁻¹·K⁻¹) with 6.7% mortar (0.88 W·m⁻¹·K⁻¹) and fixings correction for fully penetrating mild steel ($\lambda = 50$ W·m⁻¹·K⁻¹) double-triangle ties (12.5 mm²) at 2.5 per m² bridging the insulation.
- (2) 13 mm dense plaster with a thermal conductivity of 0.57 W·m⁻¹·K⁻¹.
- (3) 100 mm dense block with a thermal conductivity of 1.13 W·m⁻¹·K⁻¹ and 6.7% mortar at 0.88 W·m⁻¹·K⁻¹.
- (4) 12.5 mm plasterboard with a thermal conductivity of 0.21 W·m⁻¹·K⁻¹ on 15 mm dabs (20%, $\lambda = 0.43$ W·m⁻¹·K⁻¹).
- (5) 100 mm AAC block with a thermal conductivity of 0.12 W·m⁻¹·K⁻¹ and 6.67% mortar at 0.88 W·m⁻¹·K⁻¹.

Table 7 Example cavity wall U values — new buildings

U value requirement ($W \cdot m^{-2} \cdot K^{-1}$)	Insulation thickness (mm) ⁽¹⁾	
	13 mm dense plaster ⁽²⁾ 100 mm dense block ⁽³⁾	12.5 mm plasterboard on dabs ⁽⁴⁾ , 100 mm AAC block ⁽⁵⁾
0.13	— ⁽⁶⁾	— ⁽⁶⁾
0.15	— ⁽⁶⁾	— ⁽⁶⁾
0.17	— ⁽⁶⁾	— ⁽⁶⁾
0.18	— ⁽⁶⁾	— ⁽⁶⁾
0.21	— ⁽⁶⁾	— ⁽⁶⁾
0.26	— ⁽⁶⁾	105
0.28	125	95
0.30	115	85

(1) 102.5 mm thick brick outer leaf ($0.77 W \cdot m^{-1} \cdot K^{-1}$) with 6.7% mortar ($0.88 W \cdot m^{-1} \cdot K^{-1}$) and fixings correction for fully penetrating stainless steel ($\lambda = 17 W \cdot m^{-1} \cdot K^{-1}$) double-triangle ties ($12.5 mm^2$) at 2.5 per m^2 bridging the insulation.

(2) 13 mm dense plaster with a thermal conductivity of $0.57 W \cdot m^{-1} \cdot K^{-1}$.

(3) 100 mm dense block with a thermal conductivity of $1.13 W \cdot m^{-1} \cdot K^{-1}$ and 6.7% mortar at $0.88 W \cdot m^{-1} \cdot K^{-1}$.

(4) 12.5 mm plasterboard with a thermal conductivity of $0.21 W \cdot m^{-1} \cdot K^{-1}$ on 15 mm dabs (20%, $\lambda = 0.43 W \cdot m^{-1} \cdot K^{-1}$).

(5) 100 mm AAC block with a thermal conductivity of $0.12 W \cdot m^{-1} \cdot K^{-1}$ and 6.7% mortar at $0.88 W \cdot m^{-1} \cdot K^{-1}$.

(6) See sections 6.2.3 and 9.1.3.

6.2.2 On the basis of the data assessed, the product can contribute towards a construction satisfying the national Building Regulations in respect of energy economy and heat retention.

6.2.3 For improved energy or carbon savings, designers must consider appropriate fabric and/or service measures.

7 Sustainable use of natural resources

Not applicable.

8 Durability

8.1 The potential mechanisms for degradation and the known performance characteristics of the materials in the product were assessed.

8.2 Service life

Under normal service conditions, the product will have a life equivalent to the structure in which it is incorporated, provided it is designed, installed and maintained in accordance with this Certificate and the Certificate holder's instructions.

PROCESS ASSESSMENT

Information provided by the Certificate holder was assessed for the following factors:

9 Design, installation, workmanship and maintenance

9.1 Design

9.1.1 The design process was assessed by the BBA and the following requirements apply in order to satisfy the performance assessed in this Certificate.

9.1.2 This Certificate covers the use of the product in any exposure zone, subject to the following conditions being satisfied. They are particularly important in areas subject to severe or very severe driving rain:

- a site survey must be carried out prior to installation (see sections A.1 and A.2)
- the minimum cavity width must be no less than 50 mm
- the cavity constructed must be uniform, with parallel faces to both masonry leaves within permissible tolerances
- walls must be in a good state of repair and show no evidence of frost damage
- walls must include a DPC

- mortar joints must not show evidence of more than hairline cracking. Raked or recessed mortar joints should be avoided.

9.1.3 The product is suitable for use in cavities of up to 125 mm in width⁽¹⁾.

(1) For cavities exceeding 125 mm, the Certificate holder recommends the use of Supafil 34 (subject of Agrément Certificate 11/4857).

9.1.4 As with other forms of cavity wall insulation, where buildings need to comply with *NHBC Standards 2025*, specifiers must observe the requirements of that document. The NHBC does not accept the use of full fill insulation in very severe exposure locations with fair-faced masonry.

9.1.5 The target mean density of the product when installed is $18 \text{ kg}\cdot\text{m}^{-3}$ over the entire installation. Individual areas within the wall must not have an absolute density variation of more than $\pm 5 \text{ kg}\cdot\text{m}^{-3}$ from the target mean density when measured over an area of 0.5 m^2 .

9.1.6 Essential ventilation openings, such as those providing combustion air on underfloor ventilation, and all flues in the cavity wall must be checked. If adequate sleeving or other cavity closures are not present, installation must not proceed until these openings have been sleeved or otherwise modified to prevent blockage by the insulant.

9.1.7 Calculations of the thermal transmittance (U value) of specific external wall constructions must be carried out in accordance with BS EN ISO 6946 : 2017 and BRE Report BR 443 : 2019.

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

Interstitial condensation

9.1.9 Walls will limit the risk of interstitial condensation adequately when they are designed and constructed in accordance with BS 5250 : 2021 and the relevant guidance.

Surface condensation

9.1.10 In England and Wales, 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 9.1.8 of this Certificate.

9.1.11 For buildings in Scotland, constructions will be acceptable where the thermal transmittance (U value) does not exceed $1.2 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ at any point, and the junctions with other elements are designed in accordance with the guidance referred to in BS 5250 : 2021. Further guidance may be obtained from BRE Report BR 262 : 2002 and section 9.1.8 of this Certificate.

Partial filling — omitted areas

9.1.12 Partial filling of the gable apex (ie limiting the fill to several brickwork courses above ceiling level) is permitted provided the top of the wall is adequately protected, and:

- the roof void is not an occupied space, and
- the loft insulation is at ceiling level.

9.1.13 Partial filling is also allowed when:

- separately insulating semi-detached or terraced properties. The cavity barrier used for this purpose is retained in the cavity and must be as defined in section 9.2.5
- filling up to the underside of a horizontal boundary, other than the roof, where that horizontal boundary is protected by a cavity tray or similar waterproof barrier
- treating properties where the wall to be insulated is below a waterproof cladding (eg tile hung) and this cladding either extends up to the roof or is protected at the top by other means (eg windowsills)

- treating areas of wall where access for drilling may be limited by features such as carports and conservatories, as defined in sections A.7 and A.8.

Existing buildings

9.1.14 In an existing building, the product may be installed only where:

- there are no signs of dampness on the inner face of the cavity wall, other than those caused solely by condensation, and
- the cavity is not being used as a source of combustion air or as a flue for ventilation purposes.

New buildings

9.1.15 New buildings subject to the national Building Regulations must be constructed in accordance with the relevant recommendations of:

- BS 8000-3 : 2020
- 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 UK National Annexes.

9.1.16 New buildings not subject to regulatory requirements must also be built in accordance with the Standards identified in section 9.1.15.

9.1.17 In new buildings where the product is to be installed:

- cavity battens or boards must be used to reduce the amount of mortar droppings left in the cavity
- injection of the product must be left until the cavity is sealed from the weather, ie the roof is in place and the window and door openings sealed.

Height restriction waivers

9.1.18 Supafil 40 is for use in buildings up to and including 12 m in height, in domestic and non-domestic buildings. The product may also be used in buildings over 12 m in height where a height restriction waiver has been issued by the Certificate holder.

9.1.19 The Certificate holder has a detailed programme for the assessment of buildings over 12 m, as approved and maintained under surveillance by the BBA. Each installation beyond 12 m must be individually assessed by the Certificate holder against this agreed assessment programme, and documented approval given prior to the commencement of work.

9.2 Installation

9.2.1 Installation instructions provided by the Certificate holder were assessed and judged to be appropriate and adequate.

9.2.2 Installation must be carried out in accordance with this Certificate, the *BBA Assessment and Surveillance Scheme for BBA Approved Installers of Cavity Wall Insulation* and the Certificate holder's instructions. A summary of instructions and guidance is provided in Annex A of this Certificate.

9.2.3 The installation of the product must only be undertaken using installation equipment tested and accepted for use with the product by the BBA.

9.2.4 The installer must provide all of the necessary hoses, drilling tools, equipment and materials for making good the walls after the installation.

9.2.5 Where a semi-detached or terraced property is to be insulated, a cavity barrier must be inserted at the line dividing the properties to contain the insulation. This consists of a continuous polypropylene brush, which is left in place when the installation is completed.

9.2.6 To prevent debris falling onto the insulation, installation must not start until the drilling has been completed on each elevation and affected areas of adjacent elevations, as the insulation travels around corners.

9.2.7 Injection holes of 22 or 25 mm diameter, to suit the diameter of the injection nozzle used (see section 9.2.8), are drilled in a diamond pattern at approximately 1.35 m centres. The topmost injection holes must not be more than 0.35 m below the upper edge of the cavity and not more than 1 m apart. The bottom row of holes must start approximately 0.8 m above the DPC level. Additional holes may be required to ensure complete filling around building features, eg under window sills and around air bricks, at the tops of walls and under gables. The topmost holes must not be more than 1 m apart under the horizontal boundaries and 1.35 m apart under the sloping boundary at the top of the gable end (see Figures 1 and 2).

Figure 1 Typical drilling pattern – frontage

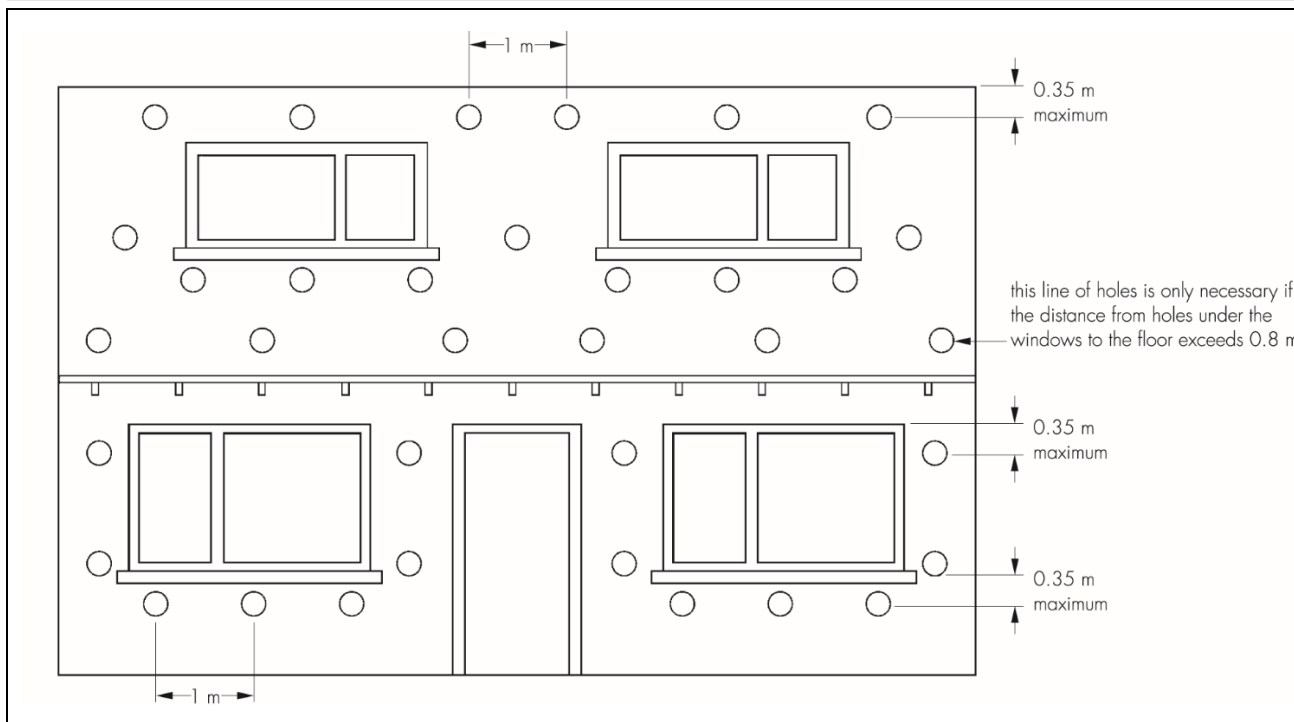
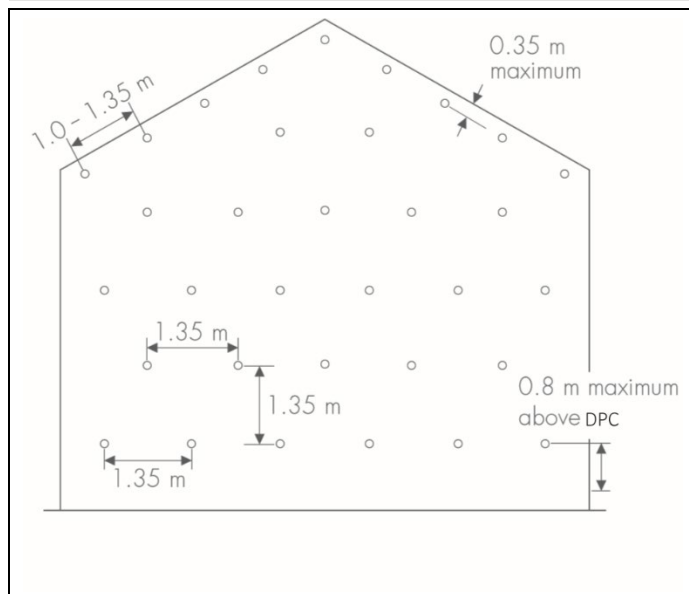


Figure 2 Typical drilling pattern – plain gable end



9.2.8 The product is blown into the cavity under pressure through 22 or 25 mm clearance holes via a flexible pipe fitted with either a 22 or 25 mm outside diameter injection nozzle, depending on the type of machine used. Filling proceeds from the bottom to the top of the walls, and from one end of an elevation to the other.

9.2.9 During installation, the following checks must be made as an aid to determining that the installation conforms to the certificated method:

- that the pattern of holes complies with the description given in section 9.2.7
- that the injection of material takes place at each hole, to complete the filling of the cavity space.

9.3 Workmanship

Practicability of installation was assessed by the BBA on the basis of the Certificate holder's information and a site visit to witness an installation in progress. To achieve the performance described in this Certificate, the product must be installed by operatives trained and approved by the Certificate holder and subsequently approved by the BBA.

9.4 Approved Installers

9.4.1 Installation of the product must be carried out by the Certificate holder or their approved installers. An Approved Installer is defined as a company:

- required to satisfy an initial site installation check by the BBA following approval by the Certificate holder and subject to the *BBA Assessment and Surveillance Scheme for Approved Installers of Cavity Wall Insulation*
- approved by the Certificate holder and the BBA to install the product
- having undertaken to comply with the Certificate holder's installation procedure
- employing technicians who have been issued with appropriate identity cards by the Certificate holder; at least one member of each installation team must carry a card
- subject to inspections by the Certificate holder who oversees the activities of Approved Installers operating under the BBA Surveillance Scheme for Cavity Wall Insulation. It is a requirement that the Certificate holder undertakes inspections of each card-carrying technician using their product, and maintains records, as detailed in the *BBA Assessment and Surveillance Scheme for Approved Installers of Cavity Wall Insulation*.

9.4.2 Details of Approved Installers are available from the Certificate holder. Approved Installers are responsible for each installation of the product that they undertake.

9.5 Maintenance and repair

As the product is confined within the wall cavity and has suitable durability, maintenance is not required. Should it become necessary for any reason, the product can be evacuated from the cavity void.

10 **Manufacture**

10.1 The production processes for the product have been assessed, and provide assurance that the quality controls are satisfactory according to the following factors:

10.1.1 The manufacturer has provided documented information on the materials, processes, testing and control factors.

10.1.2 The quality control operated over batches of incoming materials has been assessed and deemed appropriate and adequate.

10.1.3 The quality control procedures and product testing to be undertaken have been assessed and deemed appropriate and adequate.

10.1.4 The process for management of non-conformities has been assessed and deemed appropriate and adequate.

10.1.5 An audit of each production location was undertaken, and it was confirmed that the production process was in accordance with the documented process, and that equipment has been properly tested and calibrated.

† 10.2 The BBA has undertaken to review 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.

11 Delivery and site handling

11.1 The Certificate holder stated that the product is delivered to site in polythene-wrapped bales weighing approximately 17.6 kg, which must not be opened until required for use. The bales are marked with the BBA logo incorporating the number of this Certificate.

11.2 Delivery and site handling must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.2.1 The product must be stored raised off the ground, inside or under cover, on a dry, level surface and protected from rain, snow and other sources of dampness. Nothing must be stored on top of the product.

11.2.2 Damaged, contaminated or wet materials must not be used.

Supporting information in this Annex is relevant to the product but has not formed part of the material assessed for the 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.

CE marking

The Certificate holder has taken the responsibility of CE marking the product in accordance with harmonised European Standard EN 14064-1 : 2018.

Management Systems Certification for production

The management system of the manufacturer has been assessed and registered as meeting the requirements of ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 and ISO 50001 : 2018 by TÜV Nord (Certificates 44100190742, 44104190742, 44126190742 and 44764190742 respectively)

Additional information on installation

Site assessment

A.1 Prior to the installation, an assessment must be carried out by a trained assessor, who may also be the installing technician, to ascertain the suitability of the property or properties to receive the product. An assessment report is prepared and held at the installer's offices. Problems must be specifically identified and any reasons for rejection of the work noted. Care must be taken at this stage for the assessor and the party commissioning the work to identify, and agree in writing as appropriate, any areas of the wall that will not be filled (see sections A.7 and A.8) and any special requirements for making good (see section A.5).

A.2 Assessment of hard to treat (HTT) properties must be carried out by an assessor trained, approved and monitored by the Certificate holder for this specific purpose.

Site preparation

A.3 The installing operative ensures that the property has been correctly assessed and is suitable for insulation with the product. Any problems encountered during installation which prevent compliance with this Certificate must be referred to the installation company before proceeding.

A.4 Wherever practicably possible, all uncapped cavity walls must be sealed prior to installation (for example, with plugs of mineral fibre insulation).

Finishing

A.5 After injection, the drill holes are fully filled with mortar of a similar type, colour, texture and weathertightness to that of the existing wall. Where a wall requires a high degree of colour matching, the level of finish-matching must be agreed in writing during the site assessment. All trunked air vents (eg, those providing underfloor ventilation and combustion air for heating appliances) must be checked and any obstructions cleared. All flues must be carefully checked by an appropriate test (eg, by a smoke test) to verify that they are clear and unobstructed.

A.6 Insulant blown through the top of the cavity into the loft space is removed and any points of leakage sealed.

Omitted areas

A.7 In some circumstances, access for drilling injection holes and filling with insulation may be limited by features such as carports, conservatories, cladding or tiling. The practicability of safely accessing and making good these areas, or installing the insulation through the inner leaf, may outweigh the benefits of insulating these areas.

A.8 It is permissible to omit such areas only when:

- a full justification detailing the reasons to omit areas is included in the survey report
- the assessor obtains written consent for omitting any areas of the wall from the party commissioning the work. The assessor must inform the commissioning party in writing that 'heat loss' through uninsulated areas will not be reduced, and that they will also be subject to a slightly higher risk of condensation.

Bibliography

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

BRE Report BR 443 : 2019 *Conventions for U-value calculations*

BS 5250 : 2021 *Management of moisture in buildings — Code of practice*

BS 8000-3 : 2020 *Workmanship on building sites — Code of practice for masonry*

BS EN 1609 : 1997 *Thermal insulating products for building applications — Determination of short term water absorption by partial immersion*

BS EN 1996-1-1 : 2005 + A1 : 2012 *Eurocode 6 — Design of masonry structures — General rules for reinforced and unreinforced masonry structures*

NA to BS EN 1996-1-1 : 2005 + A1 : 2012 *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 calculation methods for unreinforced masonry structures*

BS EN 12667 : 2001 *Thermal performance of building materials and products — Determination of thermal resistance by means of guarded hot plate and heat flow meter methods — Products of high and medium thermal resistance*

BS EN 13820 : 2003 *Thermal insulating materials for building applications. Determination of organic content*

BS EN 14064-1 : 2018 *Thermal insulation products for buildings — In-situ formed loose-fill mineral wool (MW) products*

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

BS EN ISO 10456 : 2007 *Building materials and products — Hygrothermal properties — Tabulated design values and procedures for determining declared and design thermal values*

ISO 9001 : 2015 *Quality management systems — Requirements*

ISO 14001 : 2015 *Environmental management systems — Requirements with guidance for use*

ISO 45001 : 2018 *Occupational health and safety management systems — Requirements with guidance for use*

ISO 50001 : 2018 *Energy management systems — Requirements with guidance for use*

Conditions of Certificate

Conditions

1 This Certificate:

- relates only to the product 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
- 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
- and any matter arising out of or in connection with it or its subject matter (including non-contractual disputes or claims) is governed by and construed in accordance with the law of England and Wales.
- the courts of England and Wales shall have exclusive jurisdiction to settle any matter arising out of or in connection with this Certificate or its subject matter (including non-contractual disputes or claims).

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.

3 This Certificate will be displayed on the BBA website, and the Certificate Holder is entitled to use the Certificate and Certificate logo, provided that the product 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.

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

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

6 Any information relating to the manufacture, supply, installation, use, maintenance and removal of this product which is contained or referred to in this Certificate is the minimum required to be met when the product 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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