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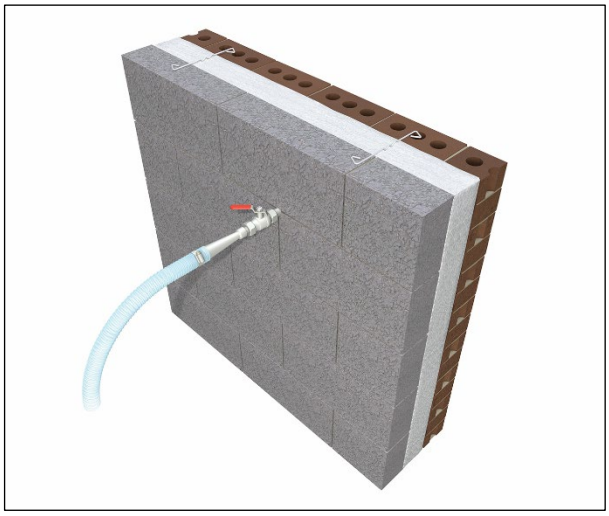
Agrément Certificate
11/4857
Product Sheet 1 Issue 4

SUPAFIL 34 CAVITY WALL INSULATION

SUPAFIL 34 (NEW BUILD)

This Agrément Certificate Product Sheet(1) relates to Supafil(2) 34 (New Build), a granulated glass mineral wool fibre material injected in loose form, for use in external cavity walls with masonry inner and outer leaves with nominal cavity widths not less than 90 mm, in new domestic and non-domestic buildings up to and including 12 metres in height. 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 Fourth issue: 12 December 2023

Originally certified on 28 November 2011

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.

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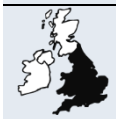
SUMMARY OF ASSESSMENT AND COMPLIANCE

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 34 (New Build), 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 sections 3 and 9 of this Certificate.
Requirement:	**L1(a)(i)**	**Conservation of fuel and power**
Comment:		The product can contribute to satisfying this Requirement. See section 6 this Certificate.
Requirement:	**7(1)**	**Materials and workmanship**
Comment:		The product is acceptable. See sections 8 and 9 of this Certificate.
Requirement:	**7(2)**	**Materials and workmanship**
Comment:		The product is unrestricted by this Regulation. See section 2 of this Certificate.
Regulation:	**25B**	**Nearly zero-energy requirements for new buildings**
Regulation:	**26**	**CO_2 emission rate for new buildings**
Regulation:	**26A**	**Fabric energy efficiency 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)**
Regulation:	**26C**	**Target primary energy rates for new buildings (applicable to England only)**
Regulation:	**26C**	**Minimum energy efficiency rating (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)**	**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 clauses 3.10.1(1)(2) and 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 sections 3 and 9 of this Certificate.
Standard:	6.1(b)(c)(d)	Energy demand and carbon dioxide emissions
Comment:		The product can contribute to satisfying this Standard with reference to clauses 6.1.1(1), 6.1.2(2) and 6.1.6(1). 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), 6.2.5(2), 6.2.6(1), 6.2.7(1), 6.2.8(1)(2), 6.2.9(1)(2), 6.2.10(1)(2), 6.2.11(1)(2), 6.2.12(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 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)(2) and 7.1.6(1)(2) and 7.1.7(1)(2). See section 6 of this Certificate.
Regulation:	**12**	**Building standards - conversions**
Comment:		Comments in relation to 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)(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 sections 3 and 9 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**
Regulation:	**40(2)**	**Target carbon dioxide emission rate**
Regulation:	**43(1)(2)**	**Renovation of thermal elements**
Regulation:	**43(b)**	**Nearly zero-energy requirements for new buildings**
Comment:		The product can contribute to satisfying these Regulations. See section 6 of this Certificate.

Additional Information

NHBC Standards 2023

In the opinion of the BBA, other than in very severe exposure locations with fair-faced masonry in cavity widths of less than 150mm, Supafil 34 (New Build), 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 34 (New Build) to be satisfactory for use as described in this Certificate. The product has been assessed as injected cavity wall insulation, for use in external cavity walls with masonry inner and outer leaves with nominal cavity widths not less than 90 mm, in new domestic and non-domestic buildings.

ASSESSMENT

Product description and intended use

The Certificate holder provided the following description for the product under assessment. Supafil 34 (New Build) consists of a granulated glass mineral wool fibre material, treated with silicone oil as a water-repellent additive.

Supafil 34 (New Build) 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 domestic and non-domestic buildings up to and including 12 metres in height, and also over 12 metres in height where a height restriction waiver has been issued by the Certificate holder, with cavity widths not less than 90 mm.

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

- a building in excess of three storeys (see section 9.1.17 of this Certificate).

Product assessment – key factors

The product was assessed for the following key factors, and the outcome of the assessments 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

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)(2)]

Product assessed	Assessment method	Requirement	Result
Supafil 34	BS EN 13820 : 2003 BS EN 14064-1 : 2018	Value achieved	≤ 1 %

(1) FIW München. Report No. W.3-21-1671-02. 31 March 2022. Copies can be obtained from the Certificate holder.
(2) RISE Research Institutes of Sweden AB. Report No. O100741-1221457-1. 10 November 2023. Copies can be obtained from the Certificate holder.

2.1.2 Based on the information given in Table 1, the reaction to fire classification of the product is Class A1.

2.1.3 Designers should 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 Adequacy of fill test and rain penetration test

Product assessed	Assessment method	Requirement	Result
Supafil 34	BBA adequacy of fill test	Even fill with no voids	Pass
	BBA wet wall test method	No water transfer to inner skin	Pass

3.1.2 On the basis of the 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 34	BS EN 1609 : 1997 (Method A)	Value achieved	≤ 1.0 $kg \cdot m^{-2}$

3.2.2 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

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

Table 4 Water vapour resistivity

Material	Assessment method	Requirement	Result
Supafil 34	BS EN ISO 10456 : 2007	Value achieved	5 $MN \cdot s \cdot g^{-1} \cdot m^{-1}$

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 tested for thermal conductivity and the results are given in Table 5.

Table 5 Thermal conductivity

Material	Assessment method	Requirement	Thermal conductivity ($W \cdot m^{-1} \cdot K^{-1}$)
Supafil 34	BS EN 12667 : 2001 BS EN 14064-1 : 2018	Declared value (λ_D)	0.034

6.2 Conservation of fuel and power

6.2.1 Example U-values are given in Table 6.

Table 6 Example U values – new cavity walls(1)

U value requirement ($W \cdot m^{-2} \cdot K^{-1}$)	Insulation thickness (mm)	
	13 mm dense plaster 100 mm dense block(2)(3)	Plasterboard on dabs 100 mm AAC block(4)(5)
0.13	240	215
0.15	210	185
0.17	185	155
0.18	170	145
0.21	145	120
0.26	115	90
0.28	110	85
0.30	100	70

(1) 102 mm thick brick outer leaf with 6.7% mortar (0.88 $W \cdot m^{-1} \cdot K^{-1}$) and fixings correction for fully-penetrating stainless steel (17 $W \cdot m^{-1} \cdot K^{-1}$) double-triangle ties (12.5 mm^2) at 2.5 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) 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 $W \cdot m^{-1} \cdot K^{-1}$.
(5) 12.5 mm plasterboard with a thermal conductivity of 0.25 $W \cdot m^{-1} \cdot K^{-1}$.

6.2.2 The U value of a completed wall will depend on the product used, the cavity width and wall structure, and its internal finish.

6.2.3 The product can contribute towards a construction satisfying the national Building Regulations in respect of energy economy and heat retention.

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 met. They are particularly important in areas subject to severe or very severe driving rain:

- a site survey should be carried out prior to installation (see sections A.1 and A.2)
- the minimum cavity width must be no less than 90 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 As with other forms of cavity wall insulation, where buildings need to comply with *NHBC Standards*, specifiers must observe the requirements of that document.

9.1.4 The target mean density of this product when installed is 25 $kg \cdot m^{-3}$ over the entire installation. Individual areas within the wall must not have an absolute density variation of more than ±5 $kg \cdot m^{-3}$ from the target mean density when measured over an area of 0.5 m^2.

9.1.5 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.

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

9.1.7 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

9.1.8 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

9.1.9 In England and Wales, walls will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed 0.7 $W \cdot m^{-2} \cdot K^{-1}$ at any point, and the junctions with other elements are designed in accordance with the guidance referred to in section 6 of this Certificate.

9.1.10 For buildings in Scotland, constructions will be acceptable where the thermal transmittance (U value) does not exceed 1.2 $W \cdot m^{-2} \cdot K^{-1}$ 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 9.1.7 of this Certificate.

Partial filling — omitted areas

9.1.11 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 protected by the roof and:

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

9.1.12 Partial filling is also allowed when:

- 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 window sills)
- treating areas of wall where access for drilling may be limited by features such as carports and conservatories, as defined in sections A.9 and A.10.

New buildings

9.1.13 New buildings subject to the national Building Regulations should 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.

9.1.14 New buildings not subject to regulatory requirements should also be built in accordance with the Standards identified in section 9.1.13.

9.1.15 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 are sealed.

Height restriction waivers

9.1.16 Supafil 34 (New Build) 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.

9.1.17 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 the necessary hoses, drilling tools, equipment and materials for making good the walls after the installation.

9.2.5 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.

9.2.6 During installation, the following simple checks can be made as an aid to determining that the installation conforms to the certified method:

- that the pattern of holes complies with the description given in section A.5
- that injection of the 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 only 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 Installation 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 BBA 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 products are confined within the wall cavity and have suitable durability, maintenance is not required. Should it become necessary for any reason, the products 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 15.5 kg, which should 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 handing must be performed in accordance with the Certificate holder's instructions and this Certificate, including:

11.3 It is essential that the product is stored 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.

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

ANNEX A – SUPPLEMENTARY INFORMATION †

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 : 2010.

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

Installation must be in accordance with the Certificate holder's instructions and this Certificate.

Site Assessment

A.1 Prior to 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 Supafil 34 (New Build). An assessment report is prepared and held at the installer's offices. Particular problems must be specifically identified and any reasons for rejection of the work noted. Care should 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.9 and A.10) and any special requirements for making good (see section A.7).

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 must ensure 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).

Procedure

Standard procedure

A.5 The product is blown into the cavity from the internal leaf only. Holes of 32 mm in diameter are drilled in a diamond pattern at approximately 1.35 m centres. The topmost injection holes should not be more than 350 mm below the top of the cavity and not more than 1 m apart. The bottom row of holes should start approximately 800 mm above the DPC level. Additional holes may be required to ensure complete filling around building features, eg under window sills, around air bricks, in column areas between doors and windows, at the tops of walls and under gables. Again, the topmost holes should 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

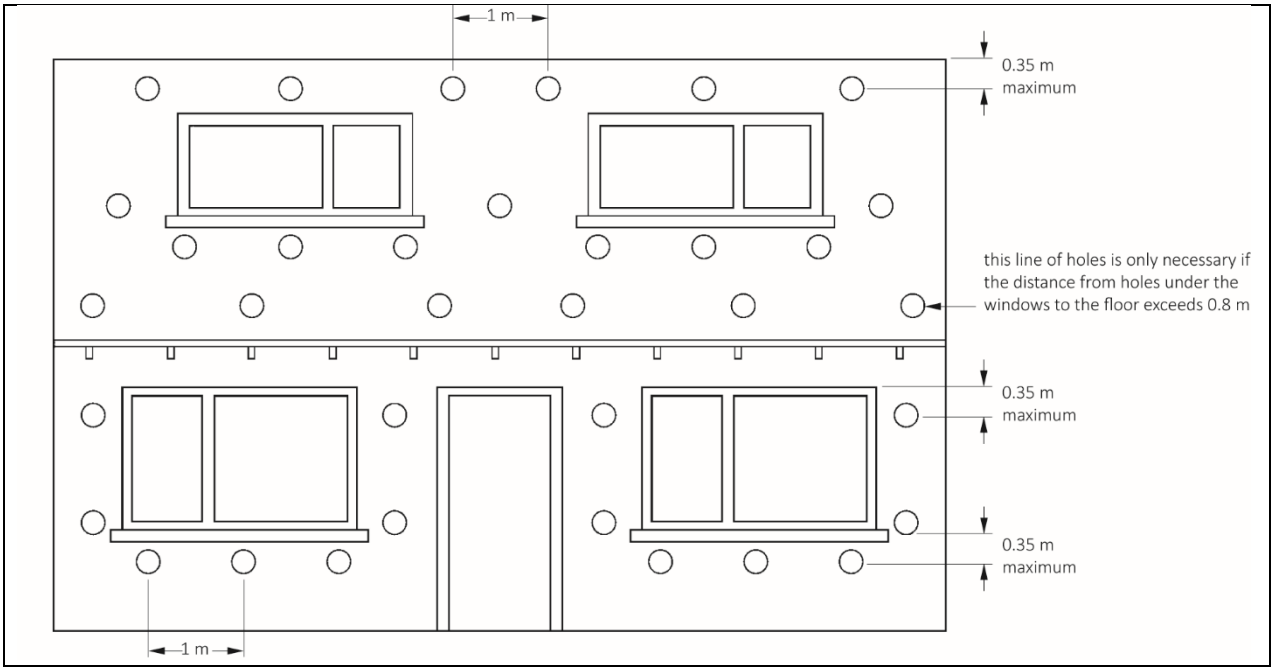
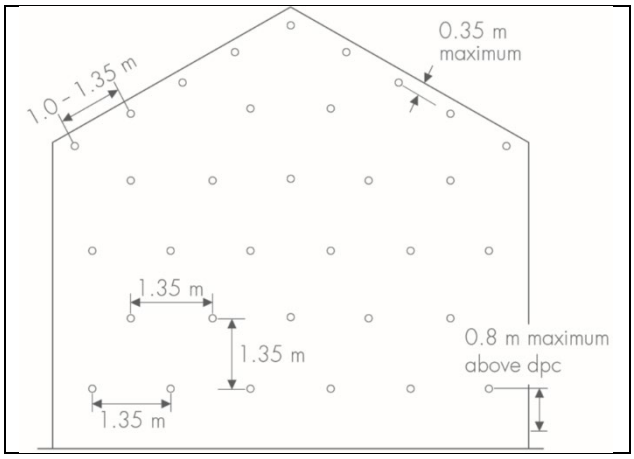


Figure 2 Typical drilling pattern — plain gable end



A.6 The product is blown into the cavity under pressure through 32 mm clearance holes via a flexible pipe, fitted with a 30 mm-outside-diameter injection nozzle. Filling proceeds from the bottom to the top of the walls, and from one end of an elevation to the other.

Finishing

A.7 After injection, the drill holes are filled with mortar of a similar type.

A.8 Insulant blown through the top of the cavity into the loft space is removed and any points of leakage sealed.

Omitted areas

A.9 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 those areas.

A.10 It is permissible to omit such areas only when:

- a full justification detailing the reasons to omit areas is included in the assessment report
- the assessor obtains written consent for omitting any areas of the wall from the party commission the work. The assessor must inform the commissioning party 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*

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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*
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BS EN 1996-3 : 2006 Eurocode 6: *Design of masonry structures — Simplified calculation methods for unreinforced masonry structures*
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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*

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Conditions

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