

## Knauf Insulation Ltd

P O Box 10  
Stafford Road  
St Helens  
Merseyside WA10 3NS  
Tel: 01744 24022 Fax: 01744 612007  
e-mail: tech@knaufinsulation.com  
website: www.knaufinsulation.co.uk



Agrément Certificate  
**14/5176**  
Product Sheet 1

### SUPAFIL CAVITY WALL INSULATION

### KNAUF INSULATION SUPAFIL PARTY WALL

This Agrément Certificate Product Sheet<sup>(1)</sup> relates to Knauf Insulation Supafil<sup>(2)</sup> Party Wall, a granulated glass mineral wool fibre material injected in loose form, for use in internal separating masonry party walls, with nominal cavity widths not less than 65 mm, in existing domestic buildings.

- (1) Hereinafter referred to as 'Certificate'.  
(2) Supafil is a registered trademark.

#### 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 properties** — the product can achieve effective party wall U values of  $0.0 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ ,  $0.1 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$  or  $0.2 \text{ W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$  depending on the nature of the perimeter junction construction (see section 6).

**Sound transmission** — the product will not significantly affect a wall's resistance to airborne sound transmission (see section 8).

**Behaviour in relation to fire** — use of the product does not prejudice the fire resistance properties of the wall (see section 9).

**Durability** — the product is durable, rot-proof, water resistant and sufficiently stable to remain effective as an insulation for the life of the building (see section 11).



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

A handwritten signature in black ink, appearing to read 'John Albon'.

Date of First issue: 28 November 2014

John Albon — Head of Approvals  
Energy and Ventilation

A handwritten signature in black ink, appearing to read 'Claire'.

Claire Curtis-Thomas  
Chief Executive

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

British Board of Agrément  
Bucknalls Lane  
Watford  
Herts WD25 9BA

tel: 01923 665300  
fax: 01923 665301  
e-mail: [clientservices@bba.star.co.uk](mailto:clientservices@bba.star.co.uk)  
website: [www.bbacerts.co.uk](http://www.bbacerts.co.uk)

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# Regulations

In the opinion of the BBA, Knauf Insulation Supafil Party Wall, if installed, used and maintained in accordance with this Certificate, is not subject to the national Building Regulations:



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



## The Building (Scotland) Regulations 2004 (as amended)



## The Building Regulations (Northern Ireland) 2012

### Construction (Design and Management) Regulations 2007

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

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

See section: *3 Delivery and site handling (3.1) of this Certificate.*

# Additional Information

## CE marking

The Certificate holder has taken the responsibility of CE marking the product, in accordance with harmonised European Standard BS EN 14064-1 : 2010. An asterisk (\*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

# Technical Specification

## 1 Description

1.1 Knauf Insulation Supafil Party Wall is a granulated glass mineral wool fibre material, treated with a water-repellent additive.

1.2 The target mean density of this product when installed is  $18 \pm 5 \text{ kg}\cdot\text{m}^{-3}$  over the entire wall.

## 2 Manufacture

2.1 Molten glass is spun into fibres through holes in rotating dishes. Silicone oil is applied to the fibres from spray nozzles.

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 Knauf Insulation Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 and BS EN ISO 14001 : 2004 by Bureau Veritas (Certificates BE001519-1 and BE005999-1 respectively).

## 3 Delivery and site handling

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

3.2 It is essential that the product is 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 should be stored on top of the product.

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

# Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Knauf Insulation Supafil Party Wall.

## Design Considerations

### 4 General

4.1 Knauf Insulation Supafil Party Wall is satisfactory for use as an injected party cavity wall insulation and is effective in reducing the party wall thermal bypass.

4.2 The product is for use in internal separating masonry cavity party walls of existing domestic buildings, comprising minimum 100 mm brick leaves or minimum 100 mm solid blockwork leaves ( $600$  to  $1600 \text{ kg}\cdot\text{m}^{-3}$ ) finished with wet plaster or a minimum 6 mm (8 mm nominal) parge coat with plasterboard on dabs.

4.3 This Certificate covers the use of the product, subject to the following conditions being met:

- prior to installation, a site survey is carried out by a BBA Approved Assessor (see sections 13 to 15 of this Certificate)
- the entire cavity must be fully filled from ground level up to the roofline
- the minimum cavity width must be no less than 65 mm
- walls must be in a good state of repair and show no evidence of damage
- installation is carried out by a BBA Approved Installer, trained to work on this type of installation.

4.4 The product may be installed only where:

- there are no signs of dampness on the two inner faces either side of the party 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.

### 5 Practicability of installation

The product must be installed by operatives trained and approved by the Certificate holder and subsequently approved by the BBA. The Certificate holder operates an Approved Installer Scheme<sup>(1)</sup> for this product under which the installers are approved, registered and regularly reviewed by the Certificate holder to demonstrate that they are competent to carry out installations of the product in accordance with this Certificate. Details of Approved Installers are available from the Certificate holder. Approved Installers are responsible for each installation of the product that they undertake (see section 16 of this Certificate).

(1) The Certificate holder's records relating to their Approved Installer Scheme will be audited annually by the BBA as part of its programme of surveillance.

### 6 Thermal properties

6.1 Significant heat can be lost via the cavity in a party wall. Rising warm air can lose heat through the wall leaves in cold loft space and can also be replaced by cooler air drawn in from the outside. The extent of the heat loss depends significantly on the external temperature and wind speed, unless the opportunity for convective air movement in the cavity and the air permeability of the cavity perimeter are significantly restricted.

6.2 Extensive in-situ testing has demonstrated that party cavity walls fully filled with the product can achieve the effective thermal transmittance (U values) in Table 1.

U values ( $\text{W}\cdot\text{m}^{-2}\cdot\text{K}^{-1}$ )	Edge sealing	Examples for wall junctions, where floor junction is closed	
		Junction closure	External wall cavity
0.0	Effective	Compressible fire stops enclosed in plastic sleeves (Figure 1)	Any full- or partial-fill insulation or no fill at all
0.1	Reasonable	Full-fill MW thermal insulation (Figure 2)	Full-fill MW thermal insulation
		Compressible fire stops not enclosed in plastic sleeves	Any full- or partial-fill insulation
0.2	Poor	Cavity brush (Figure 3)	In-situ formed MW thermal insulation

Note: For any other construction still within the assessed scope, designers should refer to the appropriate defaults in RDSAP.

Figure 1 Effective edge seal — sleeved cavity barrier

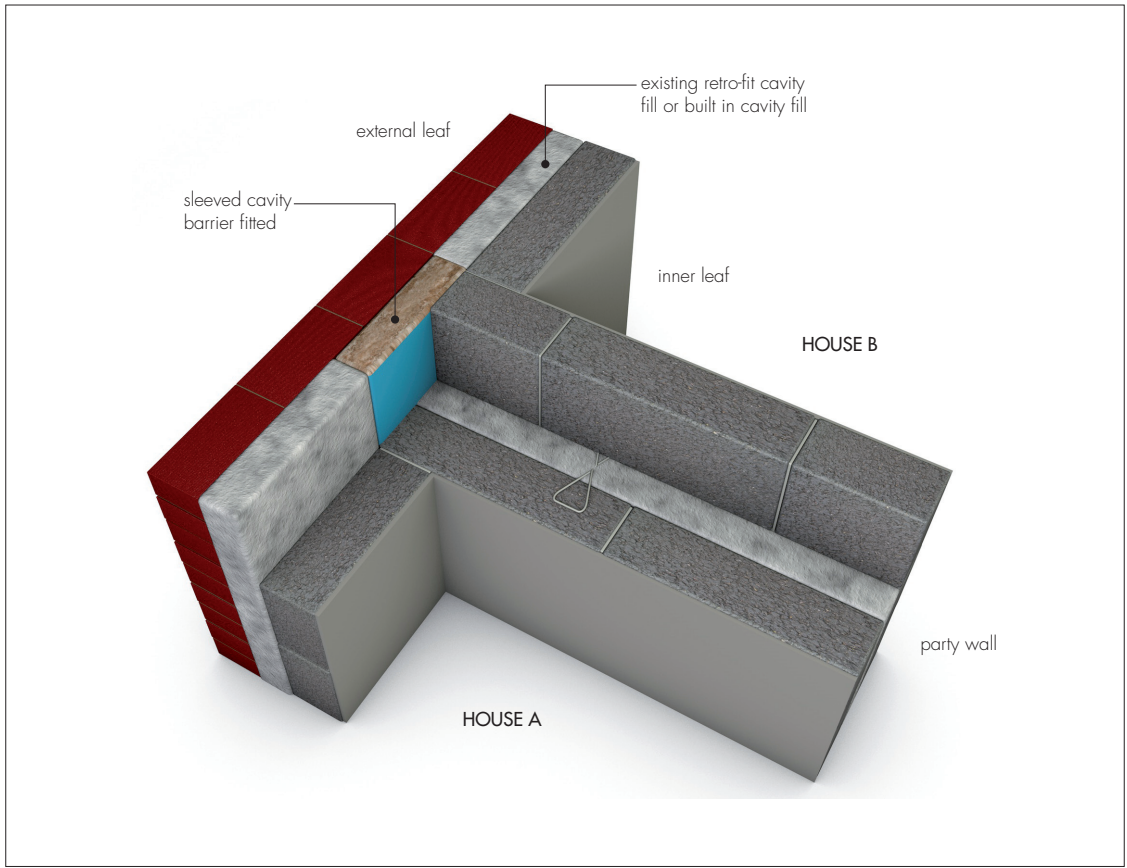


Figure 2 Reasonable edge seal — fully filled external cavity

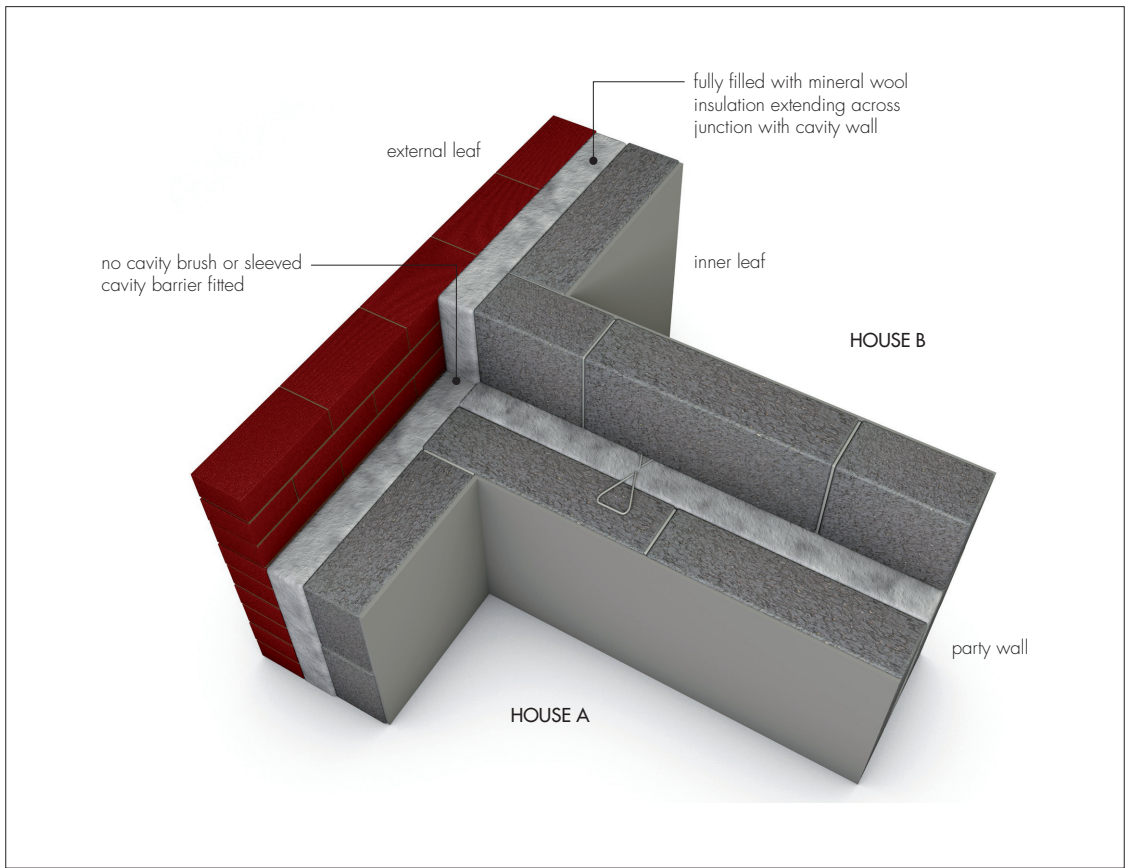
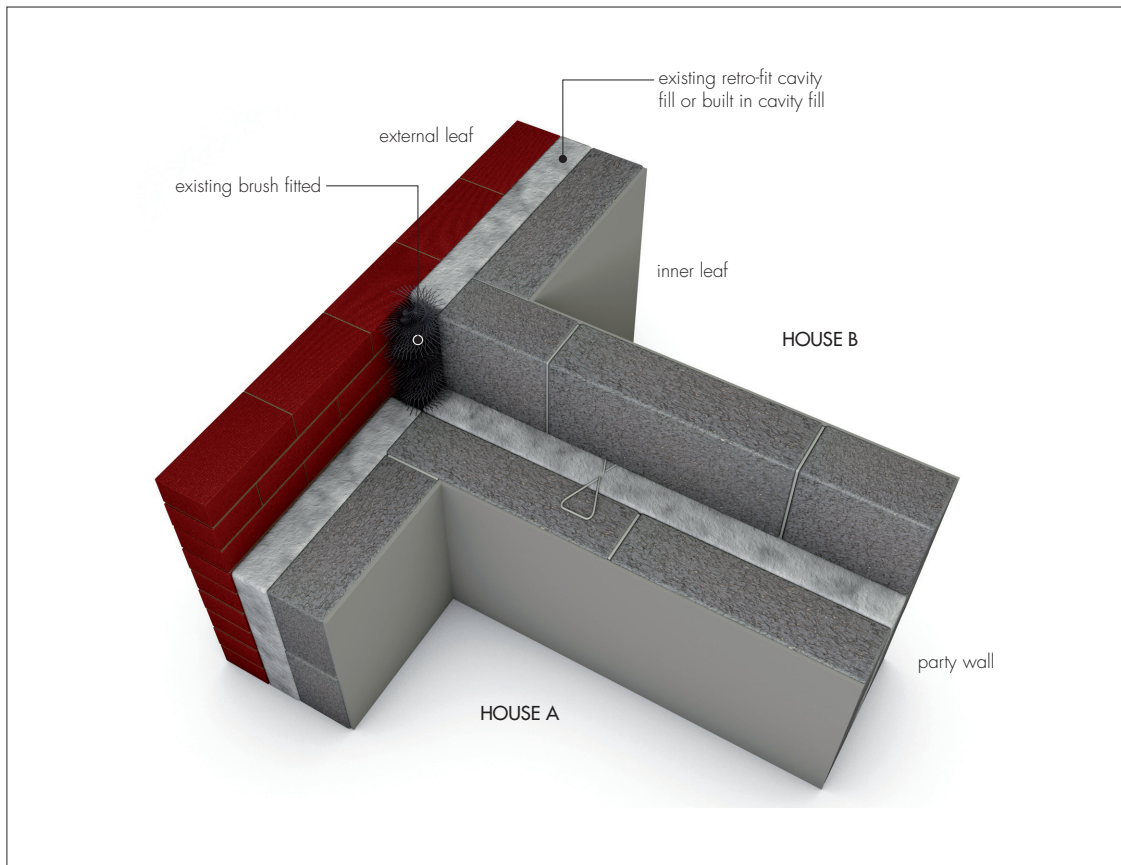


Figure 3 Poor edge seal — cavity brush



## 7 Water resistance

The product can be used in situations where it bridges the damp-proof course (dpc) in party walls; dampness from the ground will not pass through to the inner face of the walls in either property.

## 8 Sound transmission

The product will not significantly affect the wall's resistance to the passage of airborne sound.

## 9 Behaviour in relation to fire

The fire classification of the product is Class A1\* in accordance with BS EN 13501-1 : 2007 and is, therefore, non-combustible.

## 10 Maintenance

As the product is confined within the wall cavity and has suitable durability (see section 11), maintenance is not required.

## 11 Durability

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

11.2 Should it become necessary for any reason, the product can be evacuated from the cavity void.

## Installation

### 12 Site assessment

12.1 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 Knauf Insulation Supafil Party Wall. An assessment report is prepared and held at the installer's offices. Particular problems are 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 special requirements for making good (see section 18.6).

12.2 Assessment of properties must be carried out by a member of the BBA Approved Assessor Scheme for Assessing the Suitability of Buildings for the Installation of Cavity Wall Insulation, who has been specifically approved for the assessment of party walls (see section 13).

12.3 The assessment should establish the presence of electrical cables and other services found within the party wall cavity. De-rating of cables should be considered, as required.

## 13 Approved Assessors

All assessors must be BBA-approved, and registered with the BBA as part of the BBA Approved Installer and Assessor schemes. The BBA will monitor all Approved Assessors as part of the surveillance operated over BBA Approved Installers. BBA Inspectors will audit installation records during the annual office inspection to ensure that all party wall cavities have been filled in accordance with the relevant system Certificate including, where appropriate, that the property has been surveyed by an Approved Assessor.

## 14 Site preparation

14.1 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 are referred to the installation company before proceeding.

14.2 Essential ventilation openings, such as those providing combustion air or 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.

14.3 The party wall should be thoroughly examined for any gaps, especially at penetrations through the wall. Any gaps found must be sealed prior to installation, for example, with plugs of mineral fibre.

## 15 Approved installers

Installation of the product is 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. It is a requirement that the Certificate holder undertakes inspections of each card-carrying technician using their products, and maintains records, as detailed in the *BBA Assessment and Surveillance Scheme for BBA Approved Installers of Cavity Wall Insulation*.

## 16 Supervision

16.1 Installation of the product should be carried out in accordance with the BBA Assessment and Surveillance Scheme for Installation of Cavity Wall Insulation.

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

- the pattern of holes complies with the description given in section 18.1
- injection of material takes place in each hole, to complete the filling of the cavity space.

## 17 General

17.1 The installation of the product is undertaken using blowing machines, tested and accepted for use with this product by the BBA.

17.2 The installer provides all necessary hoses, drilling tools, equipment and materials for making good the walls after the installation.

17.3 An initial exploratory hole should be drilled to determine the masonry's resistance to spalling. This should be located adjacent to the external wall to facilitate removal of any spall.

17.4 The drilling tool used must have a selectable 'rotational only' mode in addition to a hammer action. Drilling of injection holes commences with the hammer action on, but the rotational only mode must be used for the final 25 mm of the wall leaf. Depending on the circumstances of a particular installation, the depth of the rotational only mode may need to be extended (see section 17.5).

17.5 In the event of spall occurring, the Certificate holder's methodology must be followed to determine whether to clear the cavity, investigate a revised drilling process or to abandon the installation altogether. An example of a revised drilling process is that the final 50 mm of hole depth is completed in rotational mode only.

17.6 Where the party cavity wall of a property is to be insulated and the external cavity wall is not already insulated, a cavity brush is inserted at the line dividing the junctions in order to contain the insulation. This consists of a continuous nylon brush which is left in place when the installation is completed.

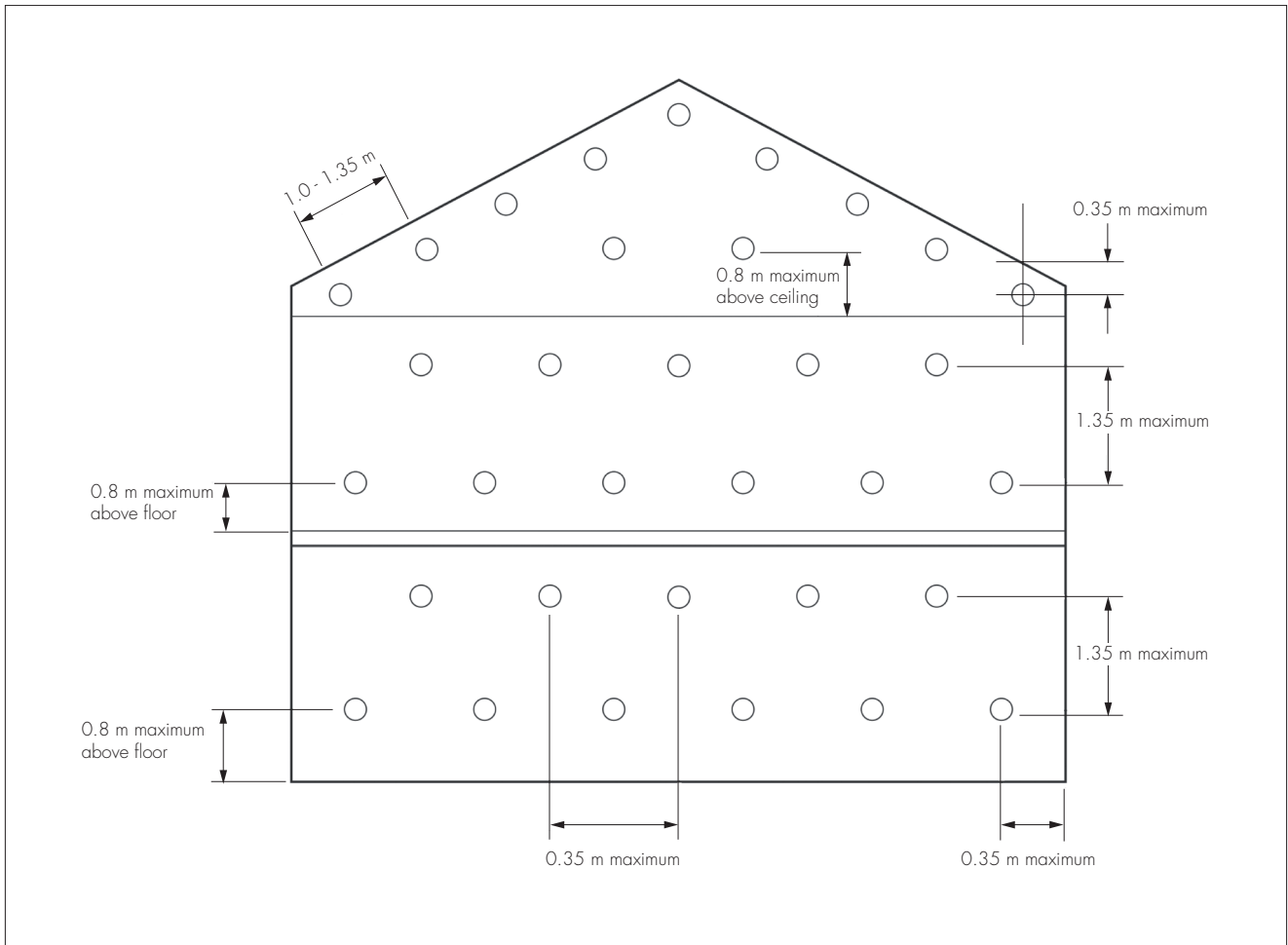
## 18 Procedure

### Internal filling

18.1 Starting closest to an external wall, holes of 22 mm in diameter are drilled to suit the diameter of the injection nozzle used. The bottom row of holes should start approximately 800 mm above floor level and a maximum of 350 mm from the junction of the external wall. The next row of holes is drilled in a diamond pattern at a maximum of 1.35 m above the bottom row. Assuming standard storey heights, this pattern is repeated for subsequent floors. For buildings with high ceilings, extra holes will need to be drilled following the installation pattern.

18.2 The final injection holes are drilled from within the loft space. The bottom row of holes should start approximately 800 mm above ceiling level. The topmost holes should not be more than 1.0 m apart under the horizontal boundaries and 1.35 m apart under the sloping boundary at the top of the gable end (see Figure 4).

Figure 4 Typical drilling pattern — internal

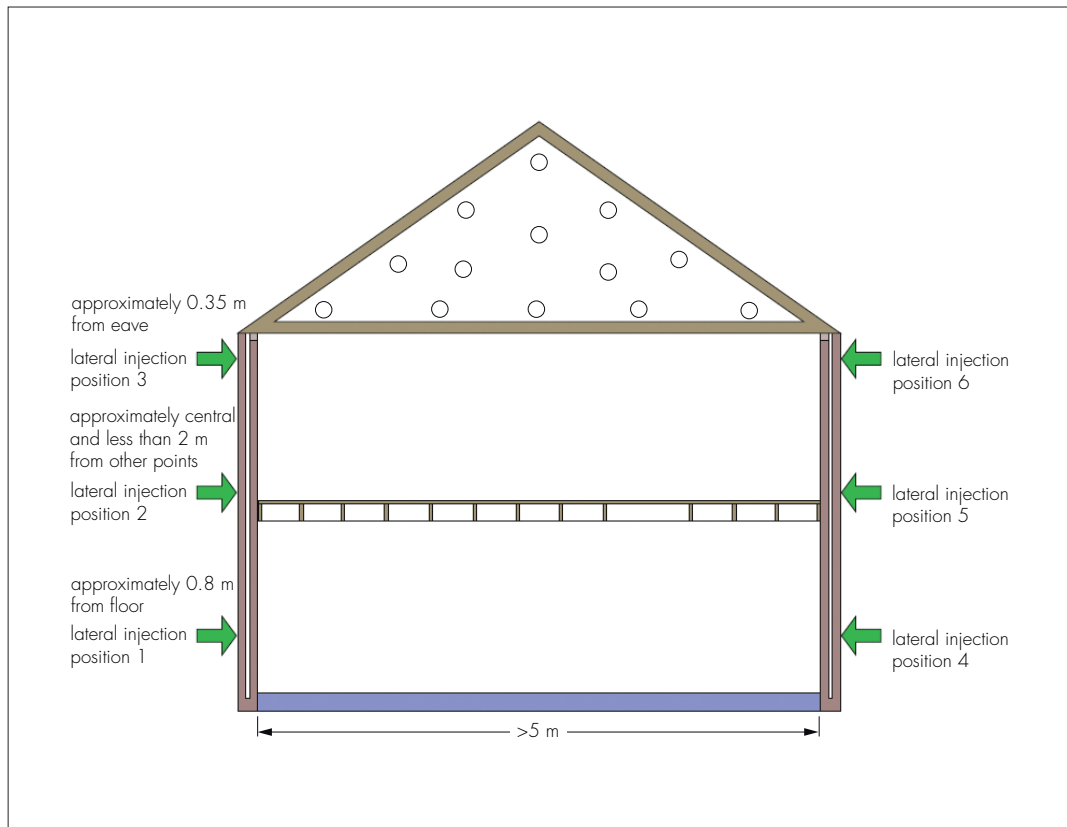


### External filling

18.3 Holes of 22 mm in diameter are drilled to suit the diameter of the injection nozzle specified by the system designer. The bottom hole should be approximately 800 mm above dpc level and on the line of the party wall. The next hole is drilled at a maximum of 2 m above the previous one. This pattern is repeated for subsequent floors as appropriate. The final injection hole is drilled 350 mm below the eaves level.

18.4 Installation is then completed internally, from within the loft space. The bottom row of holes should start approximately 800 mm above ceiling level. The topmost holes should not be more than 1.0 m apart under the horizontal boundaries and 1.35 m apart under the sloping boundary at the top of the gable end (see Figure 5).

Figure 5 Typical drilling pattern — external



18.5 For both internal and external filling, the product is blown into the cavity under pressure through 22 mm holes via a flexible pipe, fitted with the system designer's specified injection nozzle. Filling proceeds from the bottom to the top of the walls and from one elevation to the other.

### Finishing

18.6 After injection, the drill holes are fully filled and made good. The work needed to make good, and level of finish-matching, should be agreed in writing during the site assessment. All trunked air vents (eg those providing underfloor ventilation and combustion air for heating appliances) are checked and any obstructions cleared. All flues must be carefully checked by an appropriate test (eg a smoke test) to verify that they are clear and unobstructed.

18.7 Insulant blown into the loft space is removed and any points of leakage sealed (see section 14.3).

## Technical Investigations

### 19 Tests

Results of tests were assessed to determine:

- adequacy of fill using specified installation machinery and drilling pattern
- short term water absorption by partial immersion
- characterisation of the product.

### 20 Investigations

20.1 Independent data were examined in relation to the effectiveness of the product in reducing heat loss via the party wall thermal bypass mechanism.

20.2 Independent test and assessment data were examined in relation to the effect of the product (and the process of its installation) on the resistance to airborne sound transmission of the party wall.

20.3 Existing data on toxicity, durability and properties in relation to fire were evaluated.

20.4 The Certificate holder's training arrangements were evaluated.

20.5 An assessment of the practicability of installation was carried out.

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



# Bibliography

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

BS EN 14064-1 : 2010 *Thermal insulation products for buildings — In-situ formed loose-fill mineral wool (MW) products — Specification for the loose-fill products before insulation*

BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

BS EN ISO 14001 : 2004 *Environmental Management systems — Requirements with guidance for use*

# Conditions of Certification

## 21 Conditions

21.1 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.

21.2 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.

21.3 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.

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

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

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

21.6 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.