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Agrément Certificate

14/5176

Product Sheet 1

SUPAFIL CAVITY WALL INSULATION

KNAUF INSULATION SUPAFIL PARTY WALL

This Agrément Certificate Product Sheet⁽¹⁾ relates to Knauf Insulation Supafil⁽²⁾ Party Wall, a blue granulated glass mineral wool fibre material injected in loose form, for use in internal separating masonry party walls of existing domestic buildings with nominal cavity widths not less than 65 mm, using internal or external filling methods. In the latter case, installation is restricted to a maximum of 10 metres total length of cavity wall, when filled from both ends.

(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 performance — 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 — the product has a reaction to fire classification of A1 to BS EN 13501-1 : 2007 (see section 9).

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

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

Date of Fourth issue: 18 September 2018

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

Originally certificated on 28 November 2014

The BBA is a UKAS accredited certification body – Number 113.

*The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk
Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.
Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.*



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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.

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.

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 is given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

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

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

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 being 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 ISO 9001 : 2015, ISO 14001 : 2015, DIN EN ISO 50001 : 2011 and OHSAS 18001 : 2007 by Bureau Veritas Certifications (Certificates BE008875-2, BE008876-2, BEL-130711/EnMS and BE009276-2 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 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 an approved assessor (see section 12.1)
- the entire cavity is fully filled from ground level up to the roofline
- the minimum cavity width is no less than 65 mm
- walls are in a good state of repair and show no evidence of damage
- for external filling (see sections 17.3 to 17.5), the total length of cavity wall does not exceed 10 m
- 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 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.

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⁽¹⁾ 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 14).

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

6 Thermal performance

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 spaces 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.

Table 1 Example party wall U values

U values (W·m ⁻² ·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 mineral wool thermal insulation (Figure 2)	Full-fill mineral wool 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 mineral wool thermal insulation

Note: For any other construction still within the assessed scope, designers should refer to the appropriate defaults in RdSAP (Reduced data Standard Assessment Procedure) software.

Figure 1 'Effective' edge seal — sleeved cavity barrier

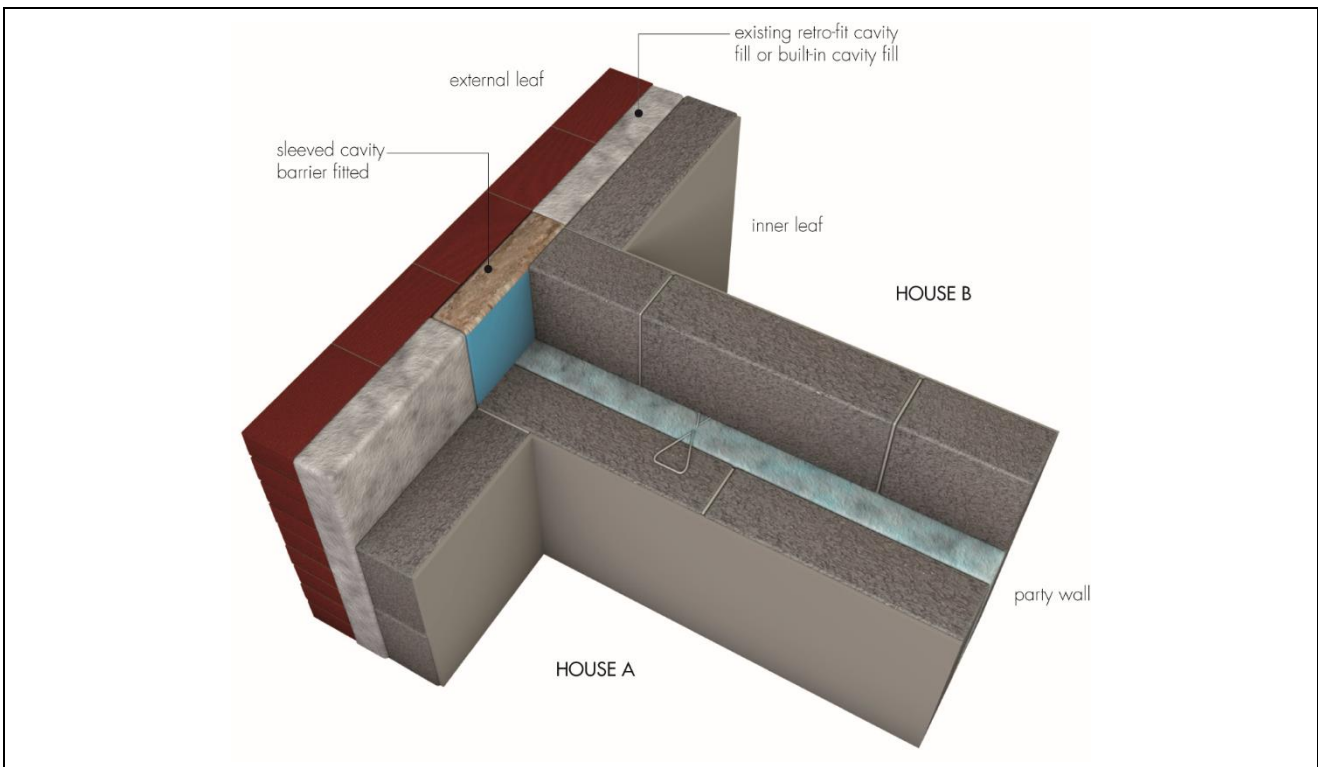


Figure 2 'Reasonable' edge seal — fully-filled external cavity

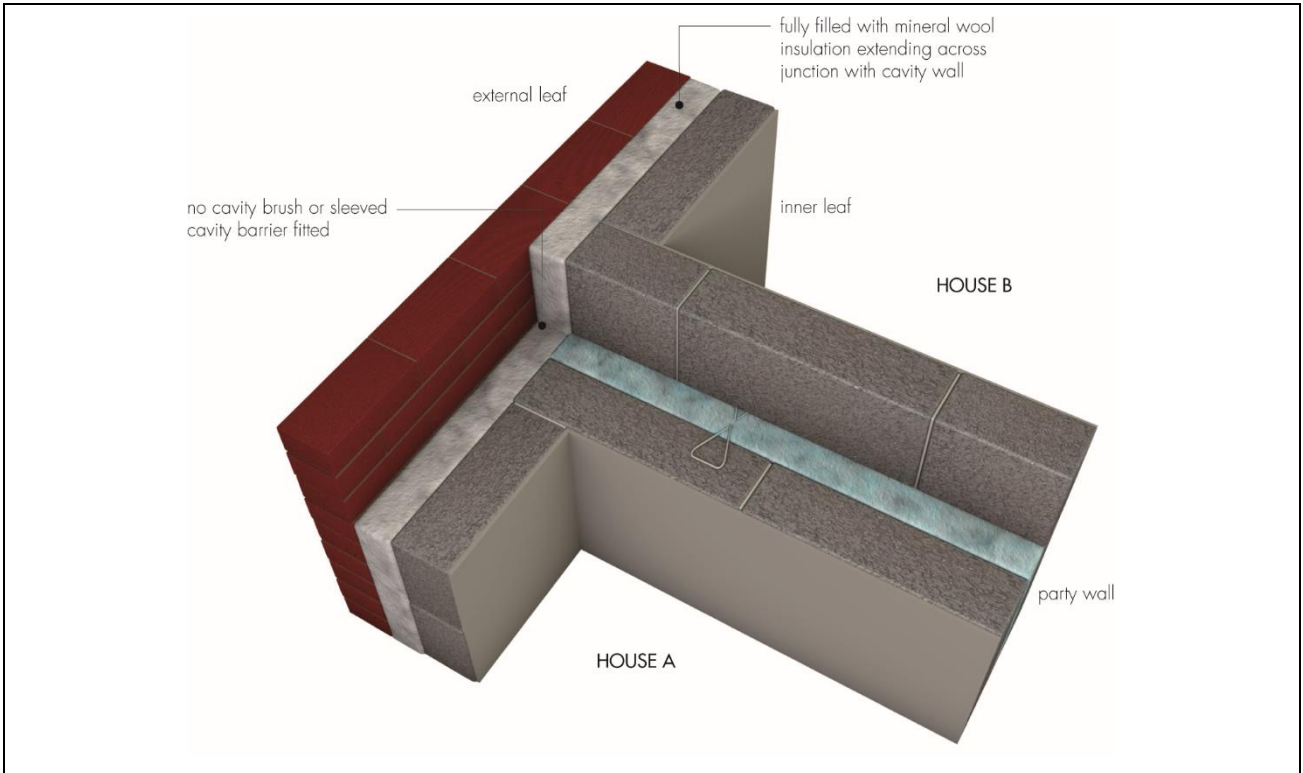
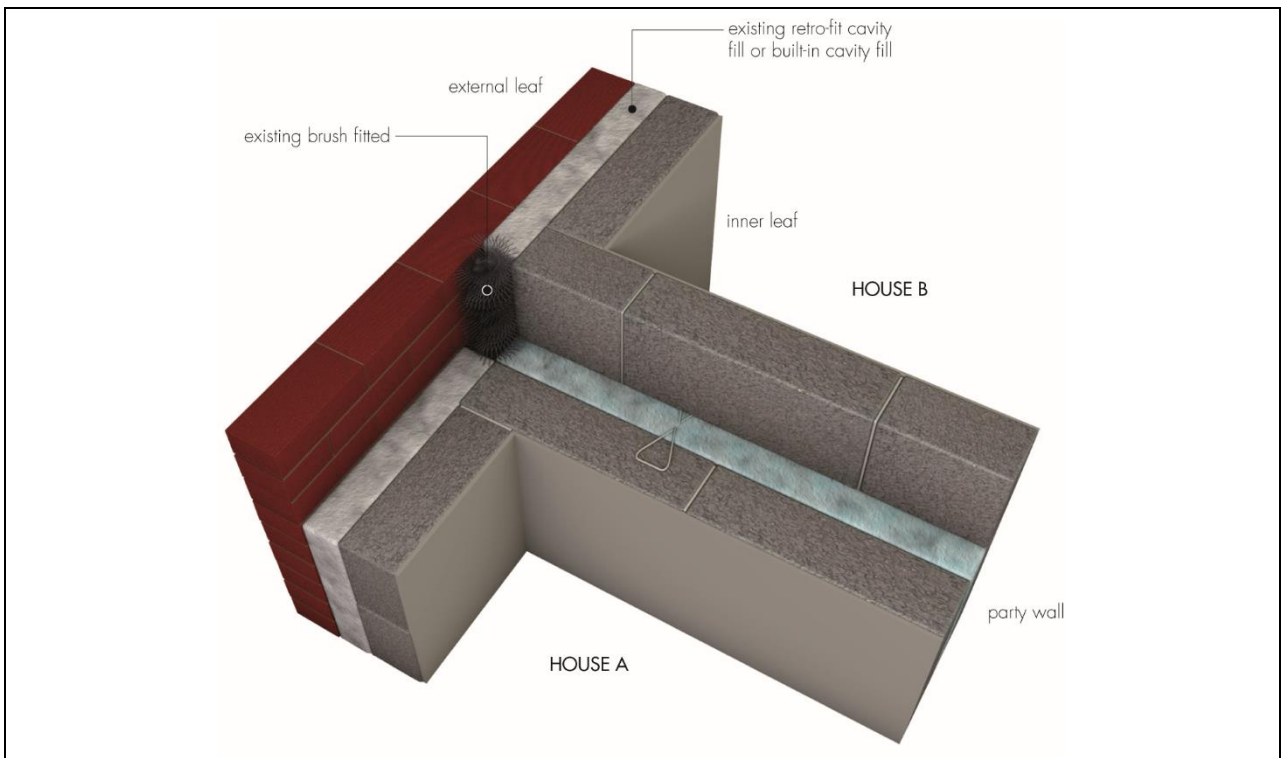


Figure 3 'Poor' edge seal — cavity brush



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 it is therefore non-combustible as defined in the national Building Regulations.

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 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 installation, an assessment must be carried out by a trained assessor⁽¹⁾, 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 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 special requirements for making good (see section 17.6).

(1) The assessor must be trained, approved and monitored by the Certificate holder for this purpose.

12.2 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 Site preparation

13.1 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.

13.2 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.

13.3 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.

14 Approved Installers

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*.

15 Supervision

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

15.2 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 17.2
- that injection of the material takes place at each hole, to complete the filling of the cavity space.

16 General

16.1 Installation of the product is undertaken using blowing machines, tested and accepted for use with the product by the BBA.

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

16.3 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.

16.4 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 16.5).

16.5 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 abandon the installation altogether. An example of a revised drilling process is that the final 50 mm of hole depth is completed in 'rotational only' mode.

16.6 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.

17 Procedure

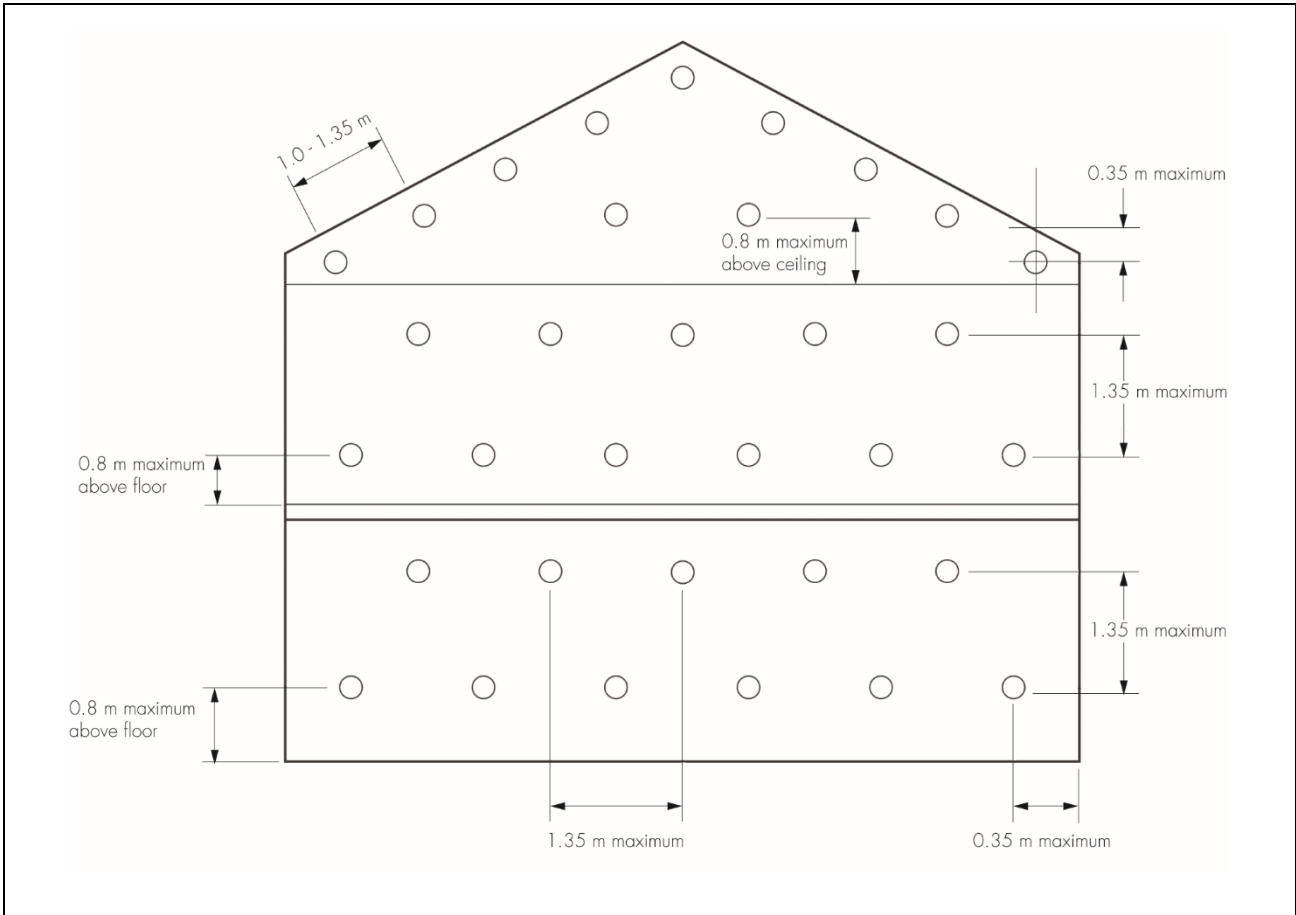
Internal filling

17.1 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 at 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.

17.2 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

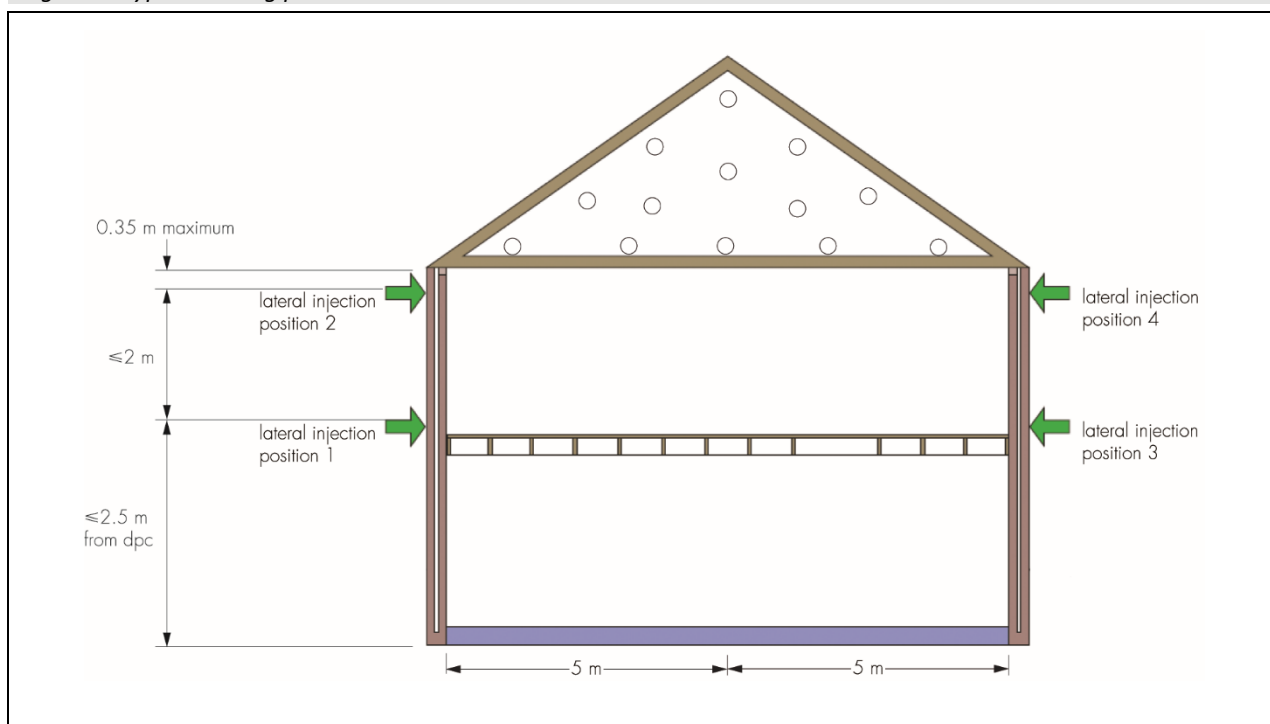


External filling

17.3 The system can also be installed via external filling, from both ends, when the total length of the cavity wall does not exceed 10 m (see Figure 5). 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 no more than 2.5 m above the dpc level and centred on the party wall line. 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.

17.4 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 4).

Figure 5 Typical drilling pattern — external



17.5 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

17.6 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 should 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. In addition, all flues must be carefully checked by an appropriate test (eg smoke test) to verify that they are clear and unobstructed.

17.7 Insulant blown through the top of the cavity into the loft space is removed and any points of leakage sealed (see section 13.3).

Technical Investigations

18 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.

19 Investigations

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

19.2 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.

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

19.4 The Certificate holder's training arrangements were evaluated.

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

19.6 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 + A1 : 2009 *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*

DIN EN ISO 50001 : 2011 *Energy management systems — Requirements with guidance for use*

OHSAS 18001 : 2007 *Occupational health and safety management systems — Requirements*

ISO 9001 : 2015 *Quality management systems — Requirements*

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

20 Conditions

20.1 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 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.

20.2 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.

20.3 This Certificate will remain valid for an unlimited period 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.

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

20.5 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 CE marking.

20.6 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.