

BASF Plc

Alfreton Trading Estate
Wimsey Way
Alfreton
Derbyshire DE55 4NL

Tel: 01773 601166 Fax: 01773 602089

e-mail: walltite-uk@basf.com

website: www.walltite.basf.co.uk



Agrément Certificate

18/5481

Product Sheet 2

BASF PLC CAVITY WALL INSULATION

BASF WALLTITE CV 100 CAVITY WALL STABILISATION FOAM

This Agrément Certificate Product Sheet⁽¹⁾ relates to BASF WALLTITE⁽²⁾ CV 100 Cavity Wall Stabilisation Foam, a rigid polyurethane foam injected in liquid form, used to stabilise external masonry cavity walls in which the conventional wall ties have corroded. The product stabilises the wall by adhering to the inner surfaces of the cavity and providing a continuous structural connection between the two leaves. The product is for use in walls up to and including 12 m in height with cavity widths not less than 40 mm, in existing domestic and non-domestic buildings.

(1) Hereinafter referred to as 'Certificate'.

(2) WALLTITE 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

Strength and stability — the product's adhesive properties are sufficient to withstand the expected wind loads, thermal cycling and minor structural movements likely to occur on the wall (see section 6).

Water resistance — the product will resist the transfer of precipitation to the inner leaf (see section 7).

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

Behaviour in relation to fire — the Certificate holder has not declared a reaction to fire classification in accordance with BS EN 13501-1 : 2018 (see section 9).

Durability — the product will remain effective as a replacement for wall ties for at least 25 years (see section 12).

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 First issue: 9 February 2018

John Albon – Head of Approvals
Construction Products

Claire Curtis-Thomas
Chief Executive

Certificate amended on 27 November 2019 to include Regulation 7(2) for England and associated text.

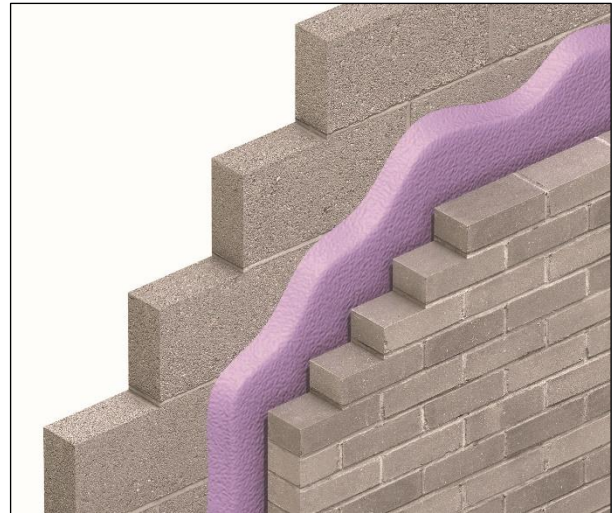
Certificate amended on 13 January 2020 to include new regulatory guidance for fire in Scotland and Wales.

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 MUST check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA directly.

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



British Board of Agrément

Bucknalls Lane
Watford
Herts WD25 9BA

©2018

tel: 01923 665300
clientservices@bbacerts.co.uk
www.bbacerts.co.uk

Regulations

In the opinion of the BBA, BASF WALLTITE CV 100 Cavity Wall Stabilisation Foam, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



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

Requirement:	B4(1)	External fire spread
Comment:		The product is not classified as of limited combustibility but may be used in buildings complying with Diagram 34 of this Requirement. See sections 9.1, 9.3 and 9.5 of this Certificate.
Requirement:	A1	Loading
Comment:		The product can contribute to a construction satisfying this Requirement. See section 6 of this Certificate.
Requirement:	C2(a)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See section 7.1 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See section 7.2 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		The product can contribute to satisfying this Requirement. See sections 8.1 to 8.3 of this Certificate.
Regulation:	7(1)	Materials and workmanship
Comment:		The product is an acceptable material. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation:	7(2)	Materials and workmanship
Comment:		The product is restricted by this Regulation. See sections 9.1 and 9.2 of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Durability, workmanship and fitness of materials
Comment:		The product is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	1.1a	Structure
Comment:		The product can contribute to a construction satisfying this Standard with reference to clause 1.1.1 ⁽¹⁾⁽²⁾ . See section 6 of this Certificate.
Standard:	2.6	Spread to neighbouring buildings
Comment:		The system can be unrestricted by this Standard with reference to clauses 2.6.5 ⁽¹⁾ and 2.6.6 ⁽²⁾ . See sections 9.1, 9.4 and 9.5 of this Certificate.
Standard:	3.4	Moisture from the ground
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.4.1 ⁽¹⁾⁽²⁾ and 3.4.5 ⁽¹⁾⁽²⁾ . See section 7.1 of this Certificate.

Standard:	3.10	Precipitation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.10.1 ⁽¹⁾⁽²⁾ and 3.10.3 ⁽¹⁾⁽²⁾ . See section 7.2 of this Certificate.
Standard:	3.15	Condensation
Comment:		The product can contribute to satisfying this Standard, with reference to clauses 3.15.1 ⁽¹⁾⁽²⁾ , 3.15.4 ⁽¹⁾⁽²⁾ and 3.15.5 ⁽¹⁾⁽²⁾ . See sections 8.1, 8.2 and 8.4 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The product can contribute to satisfying the relevant requirements of Regulation 9, Standards 1 to 6, and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	12	Building standards applicable to conversions
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	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 12 and the <i>Installation</i> part of this Certificate.
Regulation:	28(a)	Resistance to moisture and weather
Comment:		The product can contribute to satisfying this Regulation. See section 7.1 of this Certificate.
Regulation:	28(b)	Resistance to moisture and weather
Comment:		The product can contribute to satisfying this Regulation. See section 7.2 of this Certificate.
Regulation:	29	Condensation
Comment:		The product can contribute to satisfying this Regulation. See sections 8.1 and 8.2 of this Certificate.
Regulation:		External fire spread
Comment:	36(a)	The product is not classified as of limited combustibility but may be used in buildings complying with Diagram 4.5 of this Regulation. See sections 9.1, 9.3 and 9.5 of this Certificate.
Regulation:	30	Stability
Comment:		The product can contribute to satisfying this Regulation. See section 6 of this 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.

See section: 3 *Delivery and site handling* 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 14318-1: 2013. 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 BASF WALLTITE CV 100 Cavity Wall Stabilisation Foam is a purple-coloured, polyurethane foam compound.

1.2 It is injected as a syrup from a hand gun into the wall through nominal 12 mm diameter holes spaced in a predetermined pattern.

1.3 The product has an installed density between 35 and 45 kg·m⁻³.

2 Manufacture

2.1 The material is foamed in-situ by mixing together isocyanate and resin components. The foam mix produced is soft and fluid but quickly expands and hardens to a rigid foam mass.

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 systems of BASF Plc have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 and BS EN ISO 14001 : 2004 by DQS (Certificate 099501 QM08).

3 Delivery and site handling

3.1 The two components are delivered to site in drums (up to 250 kg capacity) bearing the product name and batch number.

3.2 Drums should be stored in areas ideally above 10°C and away from possible ignition sources. The drums must be protected from frost.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the product under the *CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on BASF WALLTITE CV 100 Cavity Wall Stabilisation Foam.

Design Considerations

4 Use

4.1 BASF WALLTITE CV 100 Cavity Wall Stabilisation Foam is satisfactory for use in restoring the structural stability of existing external cavity walls with masonry inner and outer leaves in which the conventional wall ties have corroded. Masonry includes clay and calcium silicate bricks, concrete blocks, and natural and reconstituted stone blocks. The product is for use in existing domestic and non-domestic buildings up to and including 12 m in height with cavity widths not less than 40 mm or greater than 150 mm. It is essential that such walls are designed and constructed to incorporate the precautions given in this Certificate to prevent moisture penetration.

4.2 The suitability of walls for cavity stabilisation must be assessed by a suitably experienced and competent individual in accordance with BS 7456 : 1991 and BS EN 14318-2 : 2013. See section 13 of this Certificate.

4.3 This Certificate covers the use of the product in any exposure zone⁽¹⁾, subject to the following conditions being met, which are particularly important in areas which may experience severe or very severe driving rain:

- a site survey should be carried out prior to installation (see section 14)
- the minimum cavity width must be no less than 40 mm
- walls must be in good state of repair and show no evidence of frost damage
- mortar joints must not show evidence of more than hairline cracking. Raked or recessed mortar joints should be avoided in very severe exposure areas.

(1) Exposure zones defined in BRE Report BR 262 : 2002.

4.4 The product must not be used in walls that are bowed or distorted; however, it may be used in walls which have cracks in the mortar along the line of the corroded wall ties. Such cracks should be repointed prior to filling, to prevent rain penetration.

4.5 Whenever practicable, all of the cavity space from ground level to the roof or gable copings should be filled, except when separately treating semi-detached or terraced properties.

4.6 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
- where the cavity is not being used as a source of combustion air or as a flue for ventilation purposes.

4.7 Stainless steel anchors are installed at one metre horizontal centres at the upper floor level as recommended in BRE Digest 329 : 2000 and BS 7456 : 1991. Any specific structural measures recommended by a Consulting Structural Engineer relating to structural remedial works for the project must also be followed. See section 13.1 of this Certificate.

4.8 The product also substantially improves the U value (thermal transmittance) of the wall (see Product Sheet 1 of this Certificate).

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 15).

(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 Strength and stability



The product's adhesive properties are sufficient to withstand the expected wind loads, thermal cycling and minor structural movements likely to occur on the wall.

7 Water resistance



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

7.2 Where the product is properly installed in accordance with this Certificate, it will resist the transfer of precipitation to the inner leaf and satisfy the requirements of the national Building Regulations.

8 Condensation risk

Interstitial condensation



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

8.2 For the purposes of assessing the risk of interstitial condensation, the insulation's vapour resistivity may be taken as $380 \text{ MN}\cdot\text{s}\cdot\text{g}^{-1}\cdot\text{m}^{-1}$.

Surface condensation



8.3 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 the documents supporting the national Building Regulations.



8.4 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 walls are designed and constructed in accordance with the relevant parts of BS 5250 : 2011, Annexes D and G. Further guidance may be obtained from BRE Report BR 262 : 2002 and the documents supporting the national Building Regulations..

9 Behaviour in relation to fire



9.1 The product is not classified as non-combustible or of limited combustibility, and the Certificate holder has not declared a reaction to fire classification in accordance with BS EN 13501-1 : 2018.



9.2 In England and Wales, the product should not be used on buildings with a storey 18 m or more above ground level and which contain: one or more dwellings, an institution, a room for residential purposes (excluding any room in a hostel, hotel or boarding house), student accommodation, care homes, sheltered housing, hospitals or dormitories in boarding schools.



9.3 In England, Wales and Northern Ireland, the product is unrestricted in terms of proximity to a boundary and, for constructions comprising two leaves of brick or concrete each at least 75 mm thick and with cavities closed around openings, is unrestricted in terms of height (with the exception of constructions described in section 9.2 of this Certificate).



9.4 The product is not classified as non-combustible but may be used without height restriction in a wall on, or less than 1 m from, a relevant boundary, provided it is installed in a cavity that is between two leaves of masonry at least 75 mm thick, and which has a cavity barrier around all openings in the wall and at the top of the wall head.



9.5 For constructions not covered by sections 9.3 or 9.4, the use of the product is restricted to buildings with no floor more than 18 m (11 m in Scotland) above the ground and cavity barriers must be provided to comply with the relevant provisions of the national Building Regulations

9.6 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.

10 Proximity of flues and appliances

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

England and Wales — Approved Document J

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

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Technical Booklet L, sections 1 to 6.

11 Maintenance

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

12 Durability



Provided installation is carried out in accordance with the provisions of this Certificate, the product will remain effective as a replacement for wall ties for at least 25 years.

Installation

13 Site assessment

13.1 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 BASF WALLTITE CV 100 Cavity Wall Stabilisation Foam. A complete assessment report is prepared and held at the installer's offices, including a borescope survey (with sketch dimensions, width, and condition of the cavity, and extent of failing or corroded wall ties) and confirmation of suitability for installing the product.

13.2 Any report and recommendations made by a project Architect or Consulting Structural Engineer (if engaged on the project) must be taken into consideration and followed at all times. Particular problems must be specifically identified and any reasons for rejection of the work noted. At this stage the assessor and the party commissioning the work must identify, and agree in writing as appropriate, any remedial work or special requirements for making good (see sections 4.4 and 4.7 of this Certificate).

14 Site preparation

14.1 The installing operative must ensure that the property has been correctly assessed and is suitable for stabilisation with the product. Any problems encountered during installation which prevent compliance with this Certificate must be 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 All gaps and cracks in the inner and outer leaves and the tops of uncapped cavities are sealed where possible, to limit any escape of the material during installation.

14.4 Prior to installation, corroding wall ties should be identified and, if necessary, removed or isolated in accordance with BRE Digest 329 : 2000, and stainless steel anchors installed at one metre horizontal centres at the upper floor level as recommended in BRE Digest 329 : 2000 and BS 7456 : 1991. See section 4.7 of this Certificate.

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. The Certificate holder 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*.

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 17 of this Certificate
- injection of material takes place in each hole, to complete the filling of the cavity space.

17 Procedure

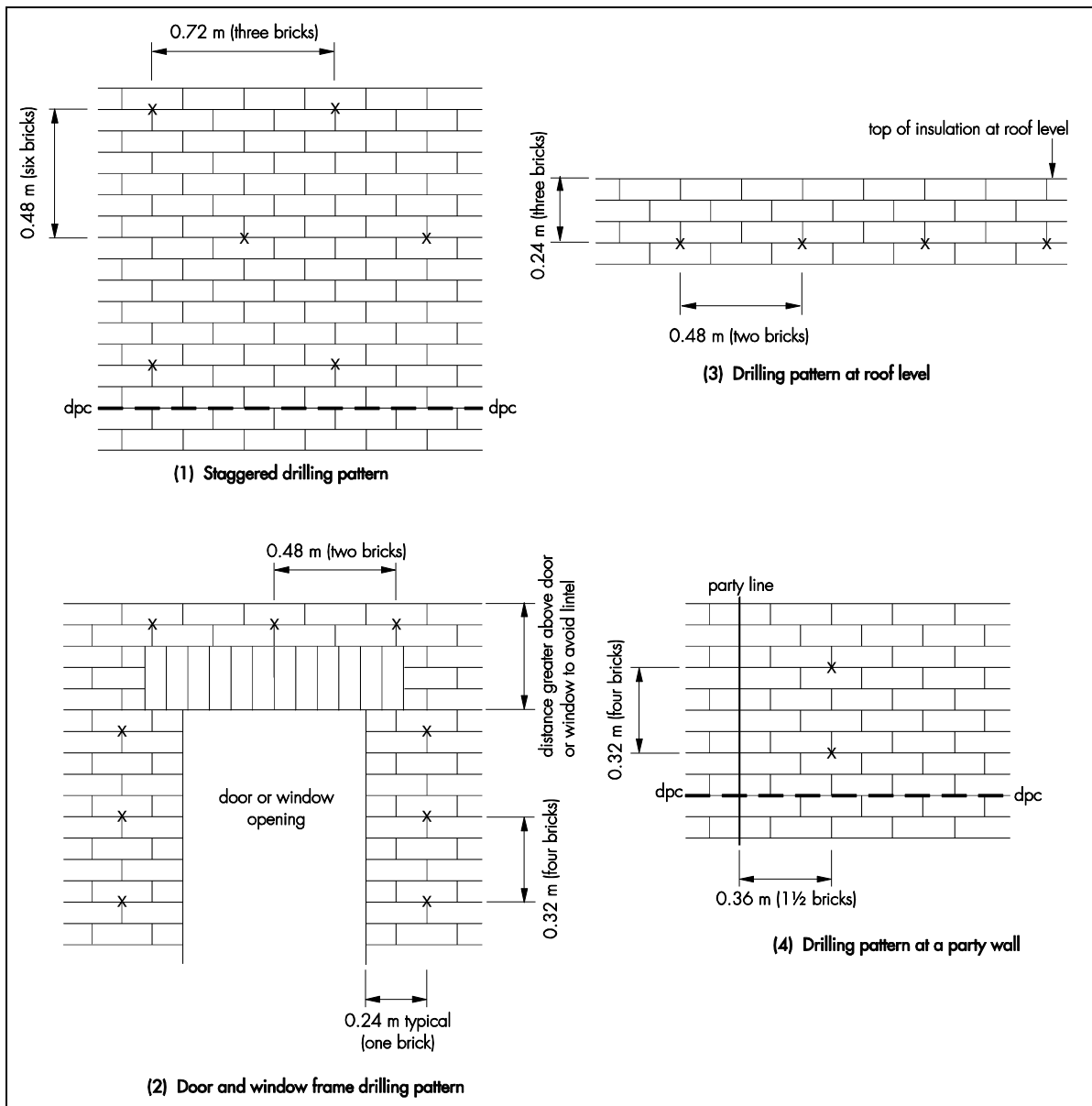
Injection equipment

17.1 The installer provides all necessary materials and equipment for installation, plus materials for making good the walls after installation of the product. Injection equipment comprises a proportioning unit of two identical air-driven pumps, which are connected and give an accurately metered supply of the isocyanate and resin components to the injection gun. Each air-driven pump supplies a separate component and has a fixed cross-sectional area to give a 1:1 ratio by volume. A 10 mm diameter nozzle is used to inject the mixed components into the cavity. A stroke counter is fitted to the proportioning unit to monitor the correct number of strokes.

Injection holes

17.2 Holes of 12 mm diameter are drilled in the outer leaf at the intersections of mortar joints. In general, a staggered drilling pattern is used, with holes approximately 0.72 m apart horizontally (ie three bricks) and 0.48 m apart vertically (ie six bricks). At door and window frames, extra holes must be drilled around these areas to ensure that they are completely filled. To minimise the risk of foam extrusion to the roof space, the highest row of holes is drilled approximately 0.24 m (three bricks) below the design height of the product and approximately 0.48 m apart horizontally (ie two bricks). When treating semi-detached or terraced houses, a vertical column of holes is drilled at approximately 0.32 m (four bricks) centres, 0.36 m (one and a half brick) in from the party line between properties. Where , air bricks are removed and replaced with a sleeved type. Care must be taken during the drilling process to ensure that no damage is done to any dpc at the various building details, eg above windows (see Figure 1).

Figure 1 Drilling patterns



Pre-injection checks

17.3 The isocyanate and resin components are temperature conditioned before starting the machine.

Party line

17.4 When dealing with the dividing line of an attached property which is not being filled, it is essential to leave a vertical boundary of polyurethane foam adjacent to the neighbouring cavity. The 10 mm diameter straight nozzle is attached to the mixing head and the primary heater and hose line temperatures are set. Higher temperatures increase foam reactivity and minimise sideways flow. Since reaction time is shorter, a bag test can be carried out in a small bag, as used in BS 5617 : 1985, Appendix B. The foam is injected into the transparent polythene bag for two strokes of the pump, the typical injection time into one hole for a boundary area. The mix reaction is timed as it enters the bag and a note made (in seconds) of the cream time, rise time and tack-free time. Once the foam has set, it is examined for sticky patches which could indicate a component surge. If satisfactory, another shot is injected and the foam allowed to cure. It is then checked for surface wrinkling and cut in half, and the internal cell structure checked for blow holes or splits. When the bag tests are satisfactory, the product density is measured.

Main sections of the wall

17.5 A foam quality check for the major area is carried out after injection of the boundary areas. A 10 mm flexible nozzle with a 45-degree end is used; the primary heater and hose line temperatures are set. The above bag tests are repeated, with an appropriate number of strokes of the pump. Once the tests have again been carried out satisfactorily, the machine is set up to commence foam injection of the major area. The foam should not be injected into a hole for more than its cream time.

Injection procedure

17.6 For a property with a party-wall, the vertical line of holes next to the party line is injected first, working upwards from the base, using two strokes per hole. After each fill, an indicator stick is inserted into each hole to show that injection has taken place and to mark the presence of the foam. When all party-wall lines have been filled, the heater and hose line temperatures are reset. The 45 degree flexible nozzle is fitted and the equipment allowed to cool down to the lower temperature. Injection of the major areas now begins, adjacent to a sealed end (eg a door frame or the band of foam at a party line), beginning at the lowest row of holes.

17.7 The complete row is then injected, with the indicator sticks being inserted and any 'topping-up' necessary being carried out at the same time. (A typical 'top-up' shot is two strokes.) The next row is injected, once the tack-free time elapses, starting in the hole directly above the last one filled. This procedure continues until the total area (starting and finishing at a sealed end) has been filled to the required height. At the top row of holes, the number of injection strokes is reduced, to avoid intrusion of foam against the roof structure. Smaller shots may also be required around windows, door frames and ducts. When filling has been completed, the total number of strokes recorded on the counter is noted, plus the total weight of chemical used. This will enable an approximate check to be made on foam density.

Finishing

17.8 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. All flues must be carefully checked by an appropriate test (eg a smoke test) to verify that they are clear and unobstructed.

17.9 If the cavity is uncapped, any insulant which has expanded over the top of the cavity into the loft space is removed. The top of the insulant is then, where possible, isolated from the roof structure by suitably shaped plugs of mineral wool.

Technical Investigations

18 Tests

Results of tests were assessed to determine:

- adhesion between foam and masonry
- foam density
- water vapour permeability of the foam
- shear strength
- dimensional stability
- compressive strength
- resistance to penetration of liquid water
- adequacy of fill of a cavity space.

19 Investigations

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

19.2 Site visits were carried out to ensure that the installation procedure is satisfactory.

19.3 The company's training arrangements were examined and approved.

19.4 A condensation risk analysis was carried out.

Bibliography

BRE Digest 329 : 2000 *Installing wall ties in existing construction*

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

BS 5250 : 2011 + A1 : 2016 *Code of practice for control of condensation in buildings*

BS 5617 : 1985 *Specification for urea-formaldehyde (UF) foam systems suitable for thermal insulation of cavity walls with masonry or concrete inner and outer leaves*

BS 7456 : 1991 *Code of practice for stabilization and thermal insulation of cavity walls (with masonry or concrete inner and outer leaves) by filling with polyurethane (PUR) foam systems*

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 14318-1 : 2013 *Thermal insulating products for buildings — In-situ formed dispensed rigid polyurethane (PUR) and polyisocyanurate (PIR) foam products — Specification for the rigid foam dispensed system before installation*

BS EN 14318-2 : 2013 *Thermal insulating products for buildings — In-situ formed dispensed rigid polyurethane (PUR) and polyisocyanurate (PIR) foam products — Specification for the installed insulation products*

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

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

20 Conditions

20.1 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.

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/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.

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/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.

20.6 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.