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**Agrement
Certificate
No 01/3789**

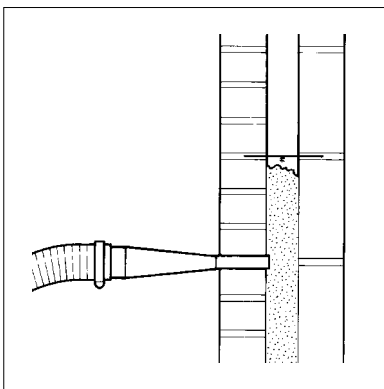
Designated by Government
to issue
European Technical
Approvals

COSYTHERM WHITE WOOL CAVITY WALL INSULATION

Isolation de murs a double paroi
Kerndämmung


Product

- THIS CERTIFICATE RELATES TO COSYTHERM WHITE WOOL CAVITY WALL INSULATION, A GLASS WOOL MATERIAL INJECTED IN LOOSE FORM.
- The product is for use in buildings up to and including 12 metres in height.
- It is used to reduce the thermal transmittance of completed, new or existing cavity walls with masonry inner and outer leaves.
- It is essential that new and existing walls comply with the conditions set out in the Design Data and Installation parts of this Certificate.
- Installation must be carried out under the BBA Surveillance Scheme for cavity wall insulation by installers trained by the Certificate holder, and approved jointly by the Certificate holder and the BBA.




Regulations

1 The Building Regulations 2000 (England and Wales)

 The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of cavity wall insulation with the Building Regulations. In the opinion of the BBA, Cosytherm White Wool Cavity Wall Insulation, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

| | |
|---------------------------|--|
| Requirement: B3(4) | Internal fire spread (structure) |
| Comment: | The product is non-combustible and may be used in buildings of every purpose group. See sections 8.2 and 8.3 of this Certificate. It may also be regarded as a cavity barrier provided all of the cavity is filled. |
| Requirement: C4 | Resistance to weather and ground moisture |
| Comment: | Tests for water resistance carried out by the BBA indicate that a wall filled with the product meets this Requirement provided the wall complies with the conditions set out in sections 7.2, 7.4, 7.6 and 9.2 of this Certificate. The product does not absorb water by capillary action and may therefore be used in situations where it bridges the dpc's of the inner and outer leaf. See section 9.1 of this Certificate. |
| Requirement: L1 | Conservation of fuel and power |
| Comment: | The product can meet or contribute to meeting this Requirement. See sections 11.2 and 11.3 of this Certificate. |
| Requirement: Regulation 7 | Materials and workmanship |
| Comment: | The product is an acceptable material. See section 12 of this Certificate. |

2 The Building Standards (Scotland) Regulations 1990 (as amended)

 In the opinion of the BBA, Cosytherm White Wool Cavity Wall Insulation, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

| | |
|----------------|--|
| Regulation: 10 | Fitness of materials |
| Standard: B2.1 | Selection and use of materials and components |
| Comment: | The product is an acceptable material. See section 12 of this Certificate. |
| Regulation: 12 | Structural fire precautions |
| Standard: D2.2 | Non-combustibility |
| Comment: | The product is non-combustible and may be used in buildings of any purpose group. See section 8.2 of this Certificate. |
| Standard: D4.1 | Concealed spaces (cavities) |
| Comment: | Cavity barriers are not required provided all of the cavity is filled. See section 8.3 of this Certificate. |
| Regulation: 17 | Resistance to moisture |
| Standard: G2.6 | Resistance to moisture from the ground |
| Comment: | The product does not absorb water by capillary action and may therefore be used in situations where it bridges the dpc's of the inner and outer leaf. See section 9.1 of this Certificate. |

continued

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| | | |
|-------------|------|---|
| Standard: | G3.1 | Resistance to precipitation |
| Comment: | | Tests by the BBA indicate that a wall filled with the product will satisfy this Standard provided it complies with the conditions set out in sections 7.2, 7.4 and 7.6 of this Certificate. See also section 9.2 of this Certificate. |
| Regulation: | 22 | Conservation of fuel and power |
| Standard: | J2.1 | Standards for buildings in purpose group 1 |
| Standard: | J3.1 | Standards for buildings in purpose groups 2 to 7 |
| Comment: | | The product can satisfy or contribute to satisfying these Standards. See sections 11.2 and 11.3 of this Certificate. |

3 The Building Regulations (Northern Ireland) 1994 (as amended)



In the opinion of the BBA, Cosytherm White Wool Cavity Wall Insulation, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

| | | |
|-------------|----|---|
| Regulation: | B2 | Fitness of materials and workmanship |
| Comment: | | The product is an acceptable material. See section 12 of this Certificate. |
| Regulation: | C5 | Resistance to ground moisture and weather |
| Comment: | | Tests by the BBA indicate that a wall filled with the product will satisfy this Regulation provided it complies with the conditions set out in sections 7.2, 7.4, and 7.6 of this Certificate. See also section 9.2 of this Certificate. The product does not absorb water by capillary action and may therefore be used in situations where it bridges the dpc's of the inner and outer leaf. See section 9.1 of this Certificate. |
| Regulation: | E6 | Internal fire spread – Structure |
| Comment: | | The product is non-combustible and may be used in buildings of any purpose group. See sections 8.2 and 8.3 of this Certificate. Cavity barriers are not required provided all of the cavity is filled. |
| Regulation: | F2 | Conservation of fuel and power |
| Comment: | | The product can satisfy or contribute to satisfying this Regulation. See sections 11.2 and 11.3 of this Certificate. |

4 Construction (Design and Management) Regulations 1994

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See sections: 6 *Delivery and site handling*, 7 *General*, 13 *Site survey*, 14 *Site preparation* and 15 *Approved installers*.

Technical Specification

5 Description

5.1 Cosytherm White Wool Cavity Wall Insulation consists of granulated glass wool fibres which are treated with an inert water repellent during manufacture. The length of the fibres and degree of granulation are subject to regular quality control checks by the manufacturer.

5.2 When installed the target mean density for this product, is 18 kgm⁻³. Local areas within the wall, when sampled over an area of 0.5 m², may have a density variation of ±5 kgm⁻³.

6 Delivery and site handling

The product is delivered to site in polythene wrapped bales weighing approximately 16 kg, which should not be opened until required for use. The bales are marked with the BBA identification mark incorporating the number of this Certificate.

Design Data

7 General

7.1 Cosytherm White Wool Cavity Wall Insulation is effective in reducing the U value (thermal transmittance) of external cavity walls, with masonry inner and outer leaves (where masonry includes clay and calcium silicate bricks, concrete blocks, natural and reconstituted stone blocks). It is essential that such walls are designed and constructed so as to incorporate the normal precautions to prevent moisture penetration.

7.2 The following design conditions have been taken from the BBA joint publication *Cavity Insulation of Masonry Walls – Dampness Risks and How to Minimise Them*. They are particularly important in areas subject to severe or very severe driving rain. These conditions include:

- the cavity width must be at least 50 mm
- walls must be in a good state of repair and must 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 high exposure areas.

Partial filling

7.3 Whenever practicable, all of the cavity space from ground level to the roof or gable copings should be filled. Partial filling is allowed only:

- when separately insulating semi-detached or terraced properties. The cavity barrier used for this purpose is retained in the cavity and must be of a type approved by the BBA. Further details are available from the BBA or the approved installer
- 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
- where filling is carried out above a horizontal boundary, and
- when 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).


Existing buildings

 7.4 Existing buildings subject to the national Building Regulations should be suitable when assessed in accordance with BS 8208-1 : 1985.

7.5 The product may be installed only where:

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

New buildings

 7.6 New buildings subject to national Building Regulations and Standards should be constructed in accordance with the relevant recommendations of:

BS 5628-3 : 1985. In particular, Clause 21 of the Code of Practice *Exclusion of moisture* should be followed in that the designer should select a construction appropriate to the local wind-driven rain index paying due regard to the design detailing, workmanship and materials to be used

BS 5390 : 1976(1984) : Section 3 where the walls incorporate stone or cast stone

BS 8000-3 : 1989.


7.7 Other new buildings not subject to these Regulations should also be built in accordance with BS 5628-3 : 1985 and/or BS 5390 : 1976(1984).

7.8 As with any other form of cavity wall insulation, where buildings need to comply with NHBC Standards or Zurich Building Guarantees Technical Standards, specifiers should observe the requirements of these documents.

7.9 The product may be installed only where injection of the product is left until the cavity is sealed from the weather, ie the roof is in place and the window and door openings are sealed.

8 Behaviour in relation to fire

8.1 The product does not prejudice the fire resistance properties of the wall.

 8.2 A sample of the product tested to BS 476-4 : 1970(1984) achieved the classification 'Non-combustible'.

8.3 The product may be used as described in the national Building Regulations:

England and Wales


in buildings of every purpose group

Scotland and Northern Ireland

in buildings of any occupancy or purpose group.

8.4 The product does not constitute a toxic hazard in fire.

9 Liquid water penetration

 9.1 Tests by the BBA demonstrate that when the product is used in situations where it bridges the 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 provision of the national Building Regulations:

England and Wales

Approved Document C, Section 4

Scotland

Technical Standard G2.6. *Provisions deemed to satisfy the standards*

Northern Ireland

Technical Booklet C, Section 1.6.

9.2 Tests by the BBA confirm that constructions built in accordance with BS 5628-3 : 1985, will resist the transfer of precipitation to the inner leaf and satisfy the national Building Regulations:

England and Wales

Requirement C4

Scotland

Technical Standard G3.1

Northern Ireland


Regulation C5.

10 Water vapour penetration

The product is not a water vapour barrier.

11 Thermal insulation

11.1 For the purpose of U value calculations to determine if the requirements of the Building (or other statutory) Regulations are met, the thermal conductivity (λ value) of the insulation may be taken as $0.040 \text{ Wm}^{-1}\text{K}^{-1}$.

 11.2 The requirement for limiting the heat loss through the building fabric will be satisfied if the U values of the building elements, including thermal bridging, do not exceed the maximum values in the relevant Elemental Methods given in:

England and Wales

Approved Document L

Scotland


Technical Standards, Part J

Northern Ireland

Technical Booklet F.

11.3 Guidance is also given in these documents on selecting the thickness of insulation required to enable a wall to achieve the desired U value. Alternative approaches are also described which allow for some flexibility in design of U values for individual constructional elements.

12 Durability

 The product is a durable material, rot-proof and water repellent. When installed it is sufficiently compacted to prevent settlement and will remain effective as an insulant for the life of the building.

Installation

13 Site survey

13.1 Prior to installation a survey is carried out by a trained surveyor to ascertain the suitability of the property or properties for Cosytherm White Wool Cavity Wall Insulation. A complete survey report is prepared and held at the installer's offices. Particular problems are specifically identified and any reasons for rejection of the work noted.

13.2 Quotations, tenders and invoices bear the BBA identification mark, incorporating the number of this Certificate.

14 Site preparation

14.1 The installing operative ensures that the property has been correctly surveyed and is suitable for insulation with the product. Any problems encountered during drilling 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 are 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.

15 Approved installers

Installation of the product is carried out by the Certificate holder and their approved installers, an approved installer being a company which:

- (1) is required to satisfy an initial site installation check by the BBA prior to approval by the Certificate holder and is subject to the *BBA Assessment Surveillance Scheme for Installers of Cavity Wall Insulation*
- (2) is approved by the Certificate holder and the BBA to install the product
- (3) has undertaken to comply with the Certificate holder's installation procedure
- (4) is employing operatives who have been issued with appropriate identity cards by the Certificate holder; at least one member of each installation team must carry a card
- (5) is subject to supervision by the Certificate holder, including unannounced site inspections.

16 Supervision

16.1 Installation should be carried out in accordance with the *BBA Assessment and Surveillance Scheme for Installers 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 should comply with the description given in section 16.3 of this Certificate
- the injection of the material takes place at each hole, to complete the filling of the cavity space.

17 Procedure

17.1 The product is installed using an approved blowing machine marked with the appropriate BBA Certificate number. The installer provides all necessary hoses, drilling tools, equipment and materials for making good the walls after the installation of the product.

17.2 Where a semi-detached or terraced property is to be treated, the insulation is contained by inserting a cavity barrier at the line dividing the properties. This consists of a nylon brush which is retained within the cavity.

17.3 Injection holes 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 upper edge of the cavity and not more than 1.0 m apart. The bottom row of holes should start approximately 800 mm above

dpc level. Additional holes may be required to ensure complete filling around building features, eg under window sills and around airbricks, at the tops of walls and under gables. Again, 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 Figures 1 and 2).

Figure 1 Typical glass wool drilling pattern — frontage

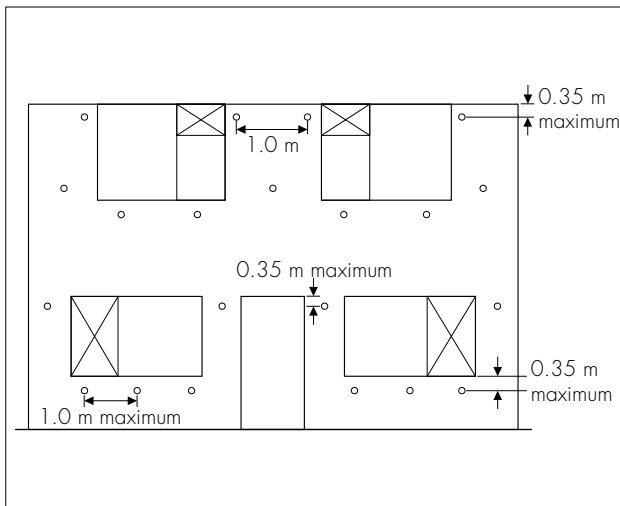
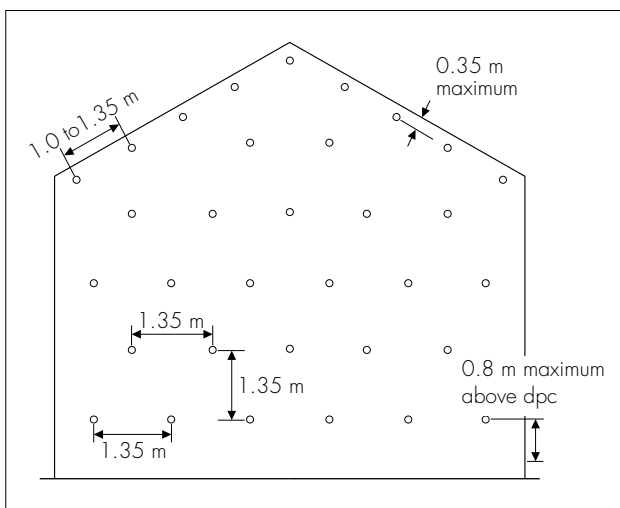


Figure 2 Typical glass wool drilling pattern — plain gable end



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

17.5 After injection of the product, the wall is made good to match the existing finish as closely as possible. All necessary air vents are checked,

eg those providing underfloor ventilation and combustion air for heating appliances. In all cases flues are carefully checked on completion of the installation by means of an appropriate test (eg a smoke test) to ensure they are not obstructed by the insulant.

Technical Investigations

The following is a summary of the technical investigations carried out on Cosytherm White Wool Cavity Wall Insulation.

18 Tests

Tests were carried out to determine:

- the water resistance of a cavity wall filled with the insulant
- adequacy of fill using specified installation machinery and drilling pattern.

19 Other investigations

19.1 The manufacturing process of the granulated glass wool fibre was examined, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

19.2 Existing data on thermal properties, toxicity and properties in relation to fire were evaluated.

19.3 A site visit was carried out to ensure that the installation procedure is satisfactory.

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

Bibliography

BS 476 *Fire tests on building materials and structures*

BS 476-4 : 1970(1984) *Non-combustibility test for materials*

BS 5390 : 1976(1984) *Code of practice for stone masonry*

BS 5628 *Code of practice for use of masonry*
BS 5628-3 : 1985 *Materials and components, design and workmanship*

BS 8000 *Workmanship on building sites*
BS 8000-3 : 1989 *Code of practice for masonry*

BS 8208 *Guide to assessment of suitability of external cavity walls for filling with thermal insulants*
BS 8208-1 : 1985 *Existing traditional cavity construction*

Conditions of Certification

20 Conditions

20.1 This Certificate:

- (a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;
- (b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;
- (c) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;
- (d) is copyright of the BBA.

20.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, shall be construed as references to such publication in the form in which it was current at the date of this Certificate.

20.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabricating process(es) thereof:

- (a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked by the BBA or its agents; and

(c) are reviewed by the BBA as and when it considers appropriate.

20.4 In granting this Certificate, the BBA makes no representation as to:

- (a) the presence or absence of any patent or similar rights subsisting in the product or any other product;
- (b) the right of the Certificate holder to market, supply, install or maintain the product; and
- (c) the nature of individual installations of the product, including methods and workmanship.

20.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the installation and use of this product.



In the opinion of the British Board of Agrément, Cosytherm White Wool Cavity Wall Insulation is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 01/3789 is accordingly awarded to 1st Insulation Partners Limited.

On behalf of the British Board of Agrément

Date of issue: 23rd March 2001

A handwritten signature in black ink, appearing to read 'P. C. Hewitt', is written over a light grey background.

Chief Executive

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