Bord Agrément na hÉireann
Irish Agrément Board

CERTIFICATE NO. 06/0134

InstaFibre Ltd., Insta House, Ivanhoe Road,
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Tel: 0044 118 932 8811 Fax: 0044 118 932 8314

Instafibre White Wool Cavity Wall Insulation System

Isolent de murs à double parol
Kerndämmung

The **Irish Agrément Board** is designated by Government to issue European Technical Approvals.

Irish Agrément Board Certificates establish proof that the certified products are **'proper materials'** suitable for their intended use under Irish site conditions, and in accordance with the **Building Regulations 1997 to 2006**.

The **Irish Agrément Board** operates in association with the **National Standards Authority of Ireland (NSAI)** as the National Member of UEAtc.

PRODUCT DESCRIPTION:
This Certificate relates to the Instafibre White Wool Cavity Wall Insulation System, a white mineral wool material injected in loose form. This Certificate is a confirmation of BBA Certificate 89/2294 issued by the British Board of Agrément, PO Box 195, Bucknalls Lane, Garston, Watford WD25 9BA.

This Certificate certifies compliance with the requirements of the Building Regulations 1997 to 2006.

This Certificate replaces IAB Certificate No. 02/0134.

USE:
The product is used for the thermal insulation of new or existing masonry walls up to 12 meters in height, subject to the conditions contained in Part 3 of this Certificate. It also facilitates the control of surface and interstitial condensation in walls. The current Building Regulations requirements can be met with this product, as shown in Table 1.

MANUFACTURE AND MARKETING

The product is manufactured for and marketed by:

InstaFibre Ltd.,
Insta House,
Ivanhoe Road,
Hogwood Business Park,
Wokingham,
Berkshire RG40 4PZ.

1.1 ASSESSMENT

In the opinion of the Irish Agrément Board (IAB), Instafibre White Wool Cavity Wall Insulation if used in accordance with this certificate, can meet the requirements of the Building Regulations 1997 to 2006 as indicated in Section 1.2 of this Agrément Certificate.

1.2 BUILDING REGULATIONS 1997 to 2006

REQUIREMENT:

Part D - Materials and Workmanship

D3 – Instafibre White Wool Cavity Wall Insulation, as certified in this Irish Agrément Board Certificate, is manufactured from materials which are 'proper materials' fit for their intended use (see Part 4 of this Certificate).

D1 – Instafibre White Wool Cavity Wall Insulation used in accordance with this Irish Agrément Board Certificate, can meet the requirements for workmanship.

Part B – Fire Safety

B3 – Internal fire spread (Structure)

Instafibre White Wool Cavity Wall Insulation is non-combustible and may be used in masonry cavity walls in buildings of every purpose group (see Section 4.1 of this Certificate).

Part C – Site Preparation and Resistance to Moisture

C4 – Resistance to Weather and Ground Moisture

The Instafibre White Wool Cavity Wall Insulation System can meet the requirements, when installed in accordance with this Certificate in cavity walls constructed in compliance with the conditions indicated in Part 3. The Instafibre White Wool Cavity Wall Insulation System does not absorb water by capillary action and may be used in exposures as indicated in Section 3 of this Certificate, and in situations where insulation is placed below the damp-proof course (see Section 4.2 of this Certificate).

Part J – Heat Producing Appliances

J3 – Protection of Building

In the opinion of the Irish Agrément Board, (IAB), the Instafibre White Wool Cavity Wall Insulation System if used in accordance with this Certificate, can meet the requirements of Part J of the Building Regulations 1997 to 2006.

Part L – Conservation of Fuel and Energy

L1 – Conservation of Fuel and Energy

U value calculations may be based on a λ value = 0.04 W/(mK). Walls using Instafibre White Wool Cavity Wall Insulation can meet the current U-value requirements in Full Fill Cavity Wall Insulation applications depending on the cavity width (see Table 1 – Section 4.4 of this Certificate).

2.1 PRODUCT DESCRIPTION

The Instafibre White Wool Cavity Wall Insulation System consists of granulated white mineral wool fibres which are treated with bonding resins and inert water repellent during manufacture. The product is for use in buildings up to and including 12m in height.

The target mean density for this product when installed is 18 kg/m^3. Local areas within the wall when sampled over an area of 0.5 m^2 may have a density variation of ±5 kg/m^3.

The current Building Regulation requirements can be met by installing this product (see Table 1). It should be noted that the construction of walls with cavities in excess of 110 mm requires adjustments to lintels, wall ties, cavity barriers etc. It is therefore necessary that cavity walls are adequately designed in respect of structural stability and fire safety in accordance with Parts A and B of the Building Regulations (see section 4.4 of this certificate).

2.2 MANUFACTURE

Mineral wool production: A predetermined mix of the named glass components is batched to a melting furnace held at approximately 1400°C. A continuous stream of molten glass is pulled from the furnace to produce fibre of the correct diameter and quality by processing through a gas fire fiberising unit.

Fibre processing: The raw fibre is processed to produce a fibre size suitable for the final blowing procedure on site and has added to it the anti-static agent, oil and silicone. The treated fibre is conveyed to a weighing and packing unit which compression packs to give individual bales of the finished product.

The length of the fibres and degree of granulation, oil content, degree of flotation and moisture content are subject to regular quality control checks by the manufacturer.

2.3 DELIVERY, STORAGE AND MARKING

Instafibre White Wool Cavity Wall Insulation is supplied in polythene wrapped bales, weighing approximately 16.6 kg, which should remain closed until required for use. Each bale shows the manufacturer's name and product description, and shows the IAB identification mark and Certificate number.

2.4 INSTALLATION PROCEDURE

2.4.1 Site Assessment

An assessment is carried out prior to installation by a trained assessor, to ascertain the suitability of the property or properties for Instafibre White Wool Cavity Wall Insulation. A complete 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.

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

2.4.2 Site Preparation

The installing technician ensures that the property has been correctly assessed and is suitable for insulation with the Instafibre White Wool Cavity Wall Insulation System. Any problems encountered during drilling which prevent compliance with this Certificate are referred to the Approved Installer before proceeding.

Essential ventilation openings such as those providing combustion air or under floor 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.

The tops of cavity walls must be closed. Cavity filling should not be done where electrical cables are not in conduits.

2.4.3 Approved Installers

Installation of the Instafibre White Wool Cavity Wall Insulation System is carried out by InstaFoam & Fibre Ltd. or by their Approved Installers who:

1) Are required to meet the requirements of an initial site installation check by IAB prior to approval and are subject to the IAB Surveillance Scheme.
2) Are approved by InstaFoam & Fibre Ltd. and the IAB to install the product.
3) Have undertaken to comply with the InstaFoam & Fibre Ltd. installation Procedure.
4) Are employing technicians who have been issued with appropriate identity cards by InstaFoam & Fibre Ltd. At least one member of each installation team must carry a card verifying this.
5) Are subject to supervision by InstaFoam & Fibre Ltd., including unannounced site inspections.

2.4.4 Supervision

Installation should be carried out in accordance with this Certificate, InstaFoam & Fibre Ltd's System Supplier Manual and the IAB Surveillance Scheme.

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

1) Check that the pattern of holes complies with the description given in Section 2.4 of this Certificate.

2) Check that the injection of the material takes place at each hole, to complete the filling of the cavity space.

2.4.5 Procedure

Instafibre White Wool Cavity Wall Insulation is installed using an approved blowing machine with the appropriate IAB Certificate number. The installer provides all necessary hoses, drilling tools, equipment and materials for making good the walls after the installation of Instafibre White Wool Cavity Wall Insulation is completed.

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 continuous inflatable sleeve or a nylon brush. After filling, the cavity barrier is retained in the cavity and the drill holes filled.

After completion of the cavity assessment and drilling plan for the building, preparation for injection into the cavity is as follows:

Holes of 26mm or 22mm diameter are drilled in a diamond pattern at approximately 1.35m centres. The topmost injection holes should not be more than 350mm below the upper edge of the cavity and not more than 1.0m apart. The bottom row of holes should start approximately 800mm above dpc level.

Additional holes may be required to ensure complete filling round building feature e.g. under window sills and around airbricks, at the tops of walls and under gables. Again, the topmost holes should not be more than 1.0m apart under the horizontal boundaries and 1.35m apart under the sloping boundary at the top of the gable end (See Figure 1).

2.4.6 Injection

The material is blown into the cavity under pressure through either one or two flexible pipes fitted with a tapered injection nozzle. Filling proceeds from the bottom to the top of the walls and from one end of an elevation to the other. Where two pipes are used, the nozzles should commence filling in different elevations at a stop-end (e.g. doorway) in the first horizontal row of holes and continue filling for two or three holes. One nozzle can be used above the other on the next row of holes, ensuring that the area below has been completely filled. Injection can continue using this method from one end of an elevation to the other throughout the property. At no time should both nozzles be used in adjacent holes.

2.4.7 Completion

After injection of the Instafibre White Wool Cavity Wall Insulation, the wall is made good to match the existing finish as closely as possible. All necessary air vents are checked, e.g. those providing under floor 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 (e.g. a smoke test) to ensure that they are not obstructed by the insulant.

3 GENERAL

The Instafibre White Wool Cavity Wall Insulation System, when installed in accordance with this Certificate, is effective in reducing the 'U' value (thermal transmittance) of external masonry cavity walls, using clay or calcium silicate bricks, concrete blocks, natural stone or reconstructed stone masonry units. It is essential that such walls are designed and constructed to prevent moisture penetration and in accordance with the Building Regulations.

3.1 As with all cavity wall insulation, the construction detailing of the building where the insulation is to be installed should comply with good practice. Certification will only relate to buildings which conform to the design conditions set out here and to buildings where the Certificate Holder or Registered Installer has carried out a complete assessment, including a boroscope survey, and has given written approval for the use of the product.

3.2 Cavity walls with the outer leaf constructed using unrendered (fair-faced) block work are not suitable for full-fill cavity wall insulation. They are therefore not covered by this Certificate.

3.3 There are separate procedures for assessing suitability of existing and new buildings for Instafibre White Wool Cavity Wall Insulation System.

3.4 Existing buildings should be assessed in accordance with BS 8208:Part 1:1985 G*uide for the assessment of suitability of external cavity walls, for filling with thermal insulants – Existing traditional cavity construction.* Existing Buildings are defined as buildings of at least three years old.

3.5 For new buildings, the designer selects a construction appropriate to the local wind-driven rain index, paying due regard to the design, detailing, workmanship and materials to be used.

3.6 Buildings subject to the relevant requirements of the Building Regulations 1997 to 2006 should be constructed in accordance with IS 325:Part 1:1986 *Code of Practice for the use of Masonry - Structural Use of Unreinforced Masonry,* and IS 325:Part 2:1995 *Code of Practice for the use of masonry - Masonry construction.* Where reinforced masonry is involved, the design should be in accordance with BS 5628:Part 2:2000 *Code of practice for use of masonry, Structural use of reinforced and prestressed masonry*. The relevant recommendations of Section 3 of BS 5390:1976 *Code of practice for stone masonry* should be followed where the wall incorporates stone or cast stone. In the case of fair faced brickwork only tool flush joint brickwork is acceptable, subject to the following conditions:

- The minimum cavity width for existing buildings is 50 mm;
- There are no signs of dampness on the inner face of the cavity other than those caused solely by condensation.

3.7 Any defects recorded which may affect the performance of the installed insulation system must be rectified to the satisfaction of the Approved Installer before work commences.

3.8 In cavities where electric cables can come into contact with the blown fibres, in accordance with good construction practice all PVC sheathed electric cables should be run through ducting.

3.9 Instafibre White Wool Cavity Wall Insulation is capable of contributing to or exceeding the 'U' value of 0.27W/m^{2}K required in the Building Regulations (See Table 1).

3.10 Assessment of Exposure Zones

During the assessment phase of a building for cavity wall insulation the topography factor of the site must be taken into account in all exposure zones. The topography factor takes account of local features such as hills, cliffs, escarpments or ridges where dwellings are located, which can significantly affect the wind speed in their vicinity. It should be derived for each wind direction considered. Reference should be made *to* BS 8104:1992 *Code of practice for assessing exposure of walls to wind driven rain)* for guidance in this regard. Appendix C makes reference to the topography factor which details the method of calculation of the wind driven rain index for exposed sites in all zones. It is only after all relevant factors are considered and calculations carried out can a true assessment of the work content for a particular building be arrived at. Figure 2 identifies the two exposure zones for wind driven rain appropriate to this certificate as follows:

3.10.1 Normal Exposure

Normal exposure to wind-driven rain applies in districts where the driving rain index is less than 5m²/sec/year however, some areas may require modification to calculations in order to cater for particular individual sites where the topography of a site warrants it (see Figure 2). Appendix C of BS 8104:1992 should be consulted.
In **normal exposure** areas the types of outer leaf masonry finishes and zones where the Instafibre White Wool Cavity Wall Insulation System is suitable are as follows:

- Impervious cladding and rendered walls with a minimum cavity width of 90 mm and up to 12m in height, and

- Fair faced unrendered brickwork with tooled flush joints up to two storeys in height with a minimum cavity width of 90mm and up to three storeys in height with a minimum cavity width of 140mm.

3.10.2 Severe Exposure

Severe exposure to wind-driven rain applies in districts where the driving rain index is 5m²/sec/year or more (see Figure 2). During the pre-insulation survey of any particular building, due regard to the exposure zones and type of masonry construction must be assessed prior to the commencement of the installation process.

In **severe exposure** areas the type of outer leaf masonry finish where the Instafibre White Wool Cavity Wall Insulation System is suitable is:

- Impervious cladding and rendered walls with a minimum cavity width of 90mm and up to 12m in height.

Unrendered brickwork is not suitable for full-fill cavity wall insulation in the severe exposure zones.

Weep holes in accordance with good construction practice must be provided at the base of brick faced cavity walls at 450mm centres and over lintels.

3.11 In both new and existing buildings, whenever practicable, all of the cavity space from ground level to roof or gable copings must be filled. Partial filling is only allowed in the following situations:

1) When separately insulating semi-detached or terraced properties. The type of cavity barrier used for this purpose must be as defined in Section 2.4.5 of this Certificate.

2) Up to the underside of a horizontal boundary, other than the roof, where that boundary is protected by a cavity tray or similar waterproof barrier which must not be distorted or damaged by the installation process.

3) Where filling is carried out above a horizontal boundary where that boundary is protected by a cavity tray or similar waterproof barrier which must not be distorted or damaged by the installation process.

4) When treating properties where the wall to be insulated is below a waterproof cladding (e.g. tile hung) and this cladding either extends up to the roof or is protected at the top by other means (e.g. window sills with adequate waterproof barrier system).

5) Where it is established that the roof void will not be an occupied space, and where the attic insulation is provided at ceiling level, partial filling of the gable apex (i.e. limiting the fill to at least 200mm above ceiling level insulation) may be permitted provided the top of the gable apex is adequately protected by the roof and its overhang and where the attic space is adequately ventilated.

3.12 Structures

The spacing of wall ties should be installed in accordance with Table 9a of IS 325:Part 2:1995. When the cavity width exceeds 110mm the wall and foundations should be designed by a Structural Engineer in accordance with IS 325:Part 1:1986.

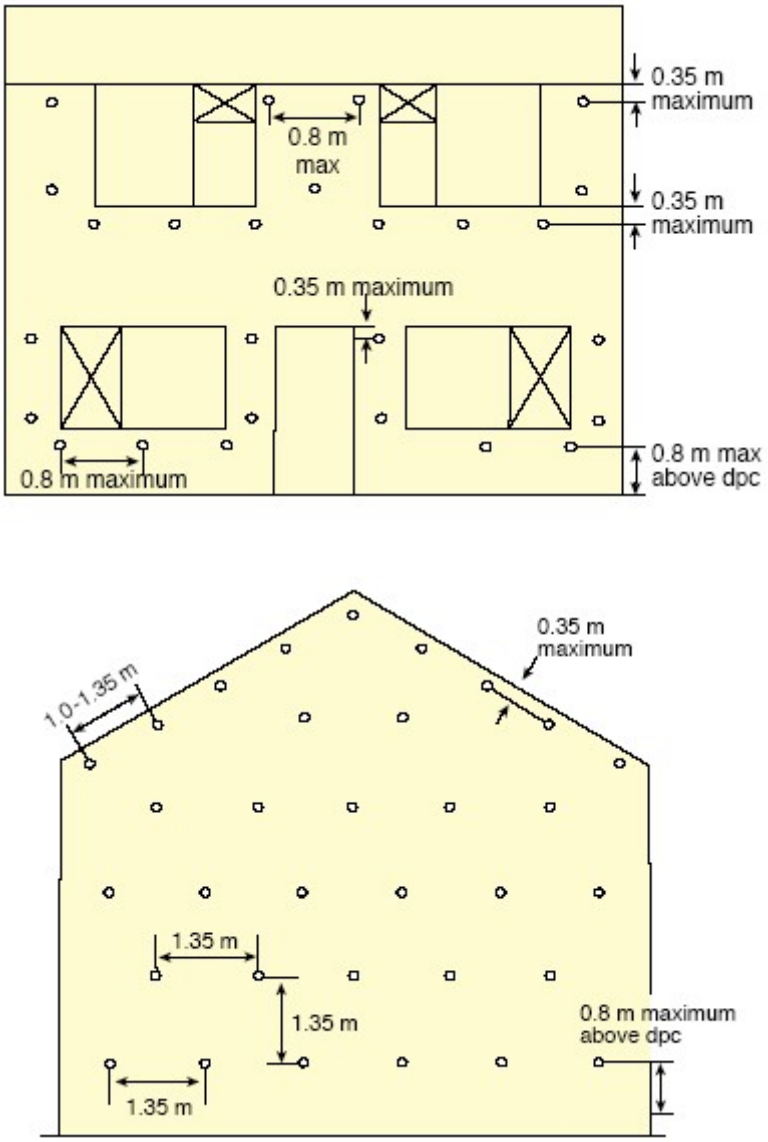


Figure 1: Typical Instafibre White Wool Hole Drilling Pattern in a Detached Dwelling

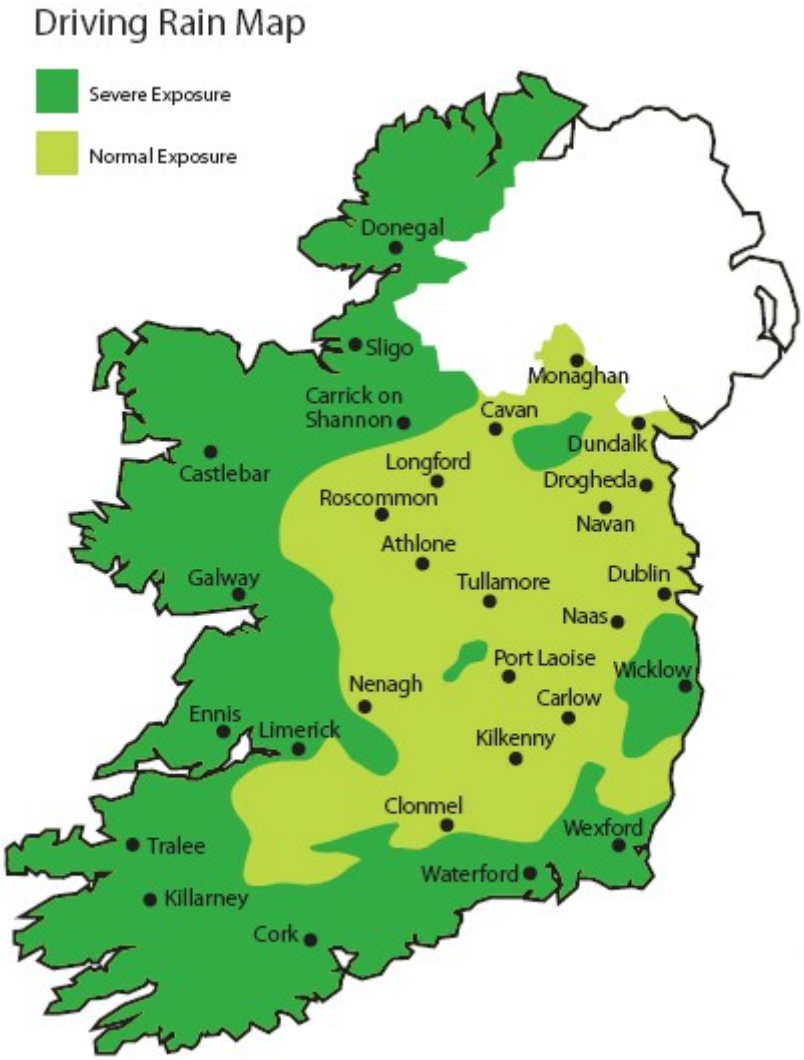


Figure 2: Driving Rain Map

4.1 BEHAVIOUR IN FIRE

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

When using this product, the requirements of the Building Regulations 1997 to 2006 relating to fire spread in cavity walls can be met in most purpose groups without the need for cavity barriers provided the walls are constructed in accordance with the following provisions of the TGD to Part B Fire:

1. The wall must consist of masonry inner and outer leaves, each at least 75 mm thick.

2. The cavity must be closed at the top of the wall and at the top of any opening.

3. In addition to the product only the following combustible materials shall be placed in, or exposed to, the cavity:
   a) timber lintel, window or door frame, or end of timber joist
   b) pipe, conduit
   c) dpc flashing closer or wall tie
   d) domestic meter cupboard, provided that:
      - there are not more than two cupboards to a dwelling.
      - the opening in the outer leaf is not more than 800 mm by 500 mm for each cupboard, and
      - the inner leaf is not penetrated except by a fire-stopped sleeve not more than 80 mm by 80 mm.
   e) thermal insulating material
   f) in respect of purpose groups 3 – 8 the cavities are sub-divided so that the distance between cavity barriers does not exceed the dimensions given in paragraph 3.3 of the TGD to Part B

4.1.2 For buildings constructed in accordance with the Building Regulations 1997 to 2006 the product may be used in buildings of every purpose group.

4.1.3 As Instafibre White Wool Cavity Wall Insulation material is manufactured without the use of 'CFCs', or similar gases, there is no release of such gas on burning.

4.1.4 Instafibre White Wool Cavity Wall Insulation is incombustible and does not constitute a toxic hazard in fire.

4.1.5 Protection of Buildings
Combustible wall insulation material should be separated by solid non-combustible material not less than 200mm thick, from any heating appliance or from any flue pipe or opening to a heating appliance; alternatively it should be separated by 40mm from the outer surface of a masonry chimney. Particular details are given in Diagrams 2-8 of the TGD Part J Building Regulation 1997 to 2006. For factory made insulated chimneys, separation between this product and the external surface of the chimney shall be determined in accordance with Clause 2.17, of Part J of the Building Regulations 1997 to 2006.

4.2 LIQUID WATER PENETRATION

4.2.1 Test data obtained by the IAB confirms that a masonry wall incorporating the Instafibre White Wool Cavity Wall Insulation and built to the requirements of IS 325:Part 1:1986, will not transmit water to the inner leaf.

4.2.2 Test data obtained by the IAB also demonstrates that Instafibre White Wool Cavity Wall Insulation material does not absorb water by capillary action. Water which penetrates the outer leaf of the wall will drain down the cavity face of the outer leaf. When the product is used in situations where it bridges the dpc in walls, dampness from the ground will not pass through, provided the cavity is taken down to at least 150 mm below the level of the lowest dpc.

4.2.3 The Instafibre White Wool Cavity Wall Insulation System, when used in accordance with this Certificate, presents no significant risk of water penetration.

4.3 WATER VAPOUR PENETRATION AND CONDENSATION RISK
Instafibre White Wool Cavity Wall Insulation is not a water vapour barrier.

4.4 THERMAL INSULATION
The thermal conductivity 'λ' value' of the Instafibre White Wool Cavity Wall Insulation material may be taken as 0.04 W/(mK) for the purpose of U value calculations.

The required maximum U-values for external walls can be obtained in typical cavity wall constructions as indicated in Table 1.

4.5 DURABILITY
Instafibre White Wool Cavity Wall Insulation is rot-proof, water repellent and durable. When installed in accordance with this certificate it is sufficiently stable to prevent settlement and will remain effective as an insulant for the life of the building when installed in accordance with this Certificate.

4.6 TESTS AND ASSESSMENTS WERE CARRIED OUT TO DETERMINE THE FOLLOWING:
- efficiency of fill using specified equipment and drilling pattern
- density of fill

- water resistance of filled cavity
- water uptake
- thermal conductivity

4.7 OTHER INVESTIGATIONS

(i) Existing data on product properties in relation to fire, toxicity, environmental impact and the effect on structural stability and durability were assessed. The absence of chloro-fluorocarbon gases 'CFCs' was established by test.

(ii) 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.

(iii) A site visit was conducted to assess the practicability of installation.

(iv) Driving rain resistance was assessed.

(v) A condensation risk analysis was performed.

Table 1: External Walls – Estimated U Values W/(m^2K)

Render 1300 kg/m^3 / Block 1800 kg/m^3 / Block 1800 kg/m^3 / Plaster 1200 kg/m^3																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.60	0.56	0.52	0.49	0.46	0.44	0.41	0.39	0.38	0.36	0.34	0.33	0.32	0.30	0.29	0.28	0.27
Render 1300 kg/m^3 / Block 1800 kg/m^3 / Block 1800 kg/m^3 / Plaster 900 kg/m^3 on plaster dabs																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.56	0.52	0.49	0.46	0.43	0.41	0.39	0.37	0.36	0.34	0.33	0.31	0.30	0.29	0.28	0.27	0.26
Render 1300 kg/m^3 / Block 1800 kg/m^3 / Block 600 kg/m^3 / Plaster 600 kg/m^3																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.48	0.45	0.43	0.41	0.39	0.37	0.35	0.34	0.32	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.24
Render 1300 kg/m^3 / Block 1800 kg/m^3 / Block 600 kg/m^3 / Plaster 900 kg/m^3 on plaster dabs																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.45	0.43	0.41	0.39	0.37	0.36	0.34	0.33	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.24
Render 1300 kg/m^3 / Block 1400 kg/m^3 / Block 600 kg/m^3 / Plaster 600 kg/m^3																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.46	0.44	0.41	0.39	0.38	0.36	0.34	0.33	0.32	0.30	0.29	0.28	0.27	0.26	0.26	0.25	0.24
Render 1300 kg/m^3 / Block 1400 kg/m^3 / Block 600 kg/m^3 / Plaster 900 kg/m^3 on plaster dabs																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.44	0.42	0.40	0.38	0.36	0.35	0.33	0.32	0.31	0.30	0.28	0.27	0.27	0.26	0.25	0.24	0.23
Render 1300 kg/m^3 / Block 600 kg/m^3 / Block 600 kg/m^3 / Plaster 600 kg/m^3																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.40	0.38	0.37	0.35	0.34	0.32	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.24	0.24	0.23	0.22
Render 1300 kg/m^3 / Block 600 kg/m^3 / Block 600 kg/m^3 / Plaster 900 kg/m^3 on plaster dabs																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.39	0.37	0.35	0.34	0.33	0.31	0.30	0.29	0.28	0.27	0.26	0.25	0.25	0.24	0.23	0.22	0.22
Block 2000 kg/m^3 (Rendered) / Block 2000 kg/m^3																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.58	0.54	0.51	0.48	0.45	0.43	0.41	0.39	0.37	0.35	0.34	0.32	0.31	0.30	0.29	0.28	0.27
Brick 1700 kg/m^3 / Block 1100 kg/m^3																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.52	0.49	0.46	0.44	0.41	0.39	0.38	0.36	0.34	0.33	0.32	0.30	0.29	0.28	0.27	0.27	0.26
Brick 1700 kg/m^3 / Block 650 kg/m^3																	
mm	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130
U	0.46	0.44	0.41	0.39	0.37	0.36	0.34	0.33	0.32	0.30	0.29	0.28	0.27	0.27	0.26	0.26	0.25

The construction of walls with cavities in excess of 110mm wide requires adjustments to lintels, wall ties, cavity barriers, etc. It is therefore necessary that cavity walls are adequately designed in respect of structural stability and fire safety in accordance with Parts A and B of the Building Regulations. For Table 1 it is assumed that cavity walls containing full-fill mineral wool will be constructed in accordance with the requirements of the 1997 to 2006 Building Regulations.

5.1 National Standards Authority of Ireland ("NSAI") following consultation with the Irish Agrément Board ("IAB") has assessed the performance and method of installation of the product/process and the quality of the materials used in its manufacture and certifies the product/process to be fit for the use for which it is certified provided that it is manufactured, installed, used and maintained in accordance with the descriptions and specifications set out in this Certificate and in accordance with the manufacturer's instructions and usual trade practice. This Certificate shall remain valid for five years from date of issue so long as:

(a) the specification of the product is unchanged.

(b) the Building Regulations 1997 to 2006 and any other regulation or standard applicable to the product/process, its use or installation remains unchanged.

(c) the product continues to be assessed for the quality of its manufacture and marking by NSAI.

(d) no new information becomes available which in the opinion of the NSAI, would preclude the granting of the Certificate.

(e) the product or process continues to be manufactured, installed, used and maintained in accordance with the description, specifications and safety recommendations set out in this certificate.

(f) the registration and/or surveillance fees due to IAB are paid.

5.2 The IAB mark and certification number may only be used on or in relation to product/processes in respect of which a valid Certificate exists. If the Certificate becomes invalid the Certificate holder must not use the IAB mark and certification number and must remove them from the products already marked.

5.3 In granting Certification, the NSAI makes no representation as to;

(a) the absence or presence of patent rights subsisting in the product/process; or

(b) the legal right of the Certificate holder to market, install or maintain the product/process; or

(c) whether individual products have been manufactured or installed by the Certificate holder in accordance with the descriptions and specifications set out in this Certificate.

5.4 This Certificate does not comprise installation instructions and does not replace the manufacturer's directions or any professional or trade advice relating to use and installation which may be appropriate.

5.5 Any recommendations contained in this Certificate relating to the safe use of the certified product/process are preconditions to the validity of the Certificate. However the NSAI does not certify that the manufacture or installation of the certified product or process in accordance with the descriptions and specifications set out in this Certificate will satisfy the requirements of the Safety, Health and Welfare at Work Act. 1989, or of any other current or future common law duty of care owed by the manufacturer or by the Certificate holder.

5.6 The NSAI is not responsible to any person or body for loss or damage including personal injury arising as a direct or indirect result of the use of this product or process.

5.7 Where reference is made in this Certificate to any Act of the Oireachtas, Regulation made thereunder, Statutory Instrument, Code of Practice, National Standards, manufacturer's instructions, or similar publication, it shall be construed as reference to such publication in the form in which it is in force at the date of this Certification.

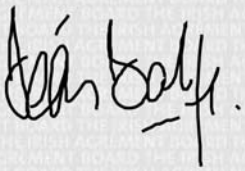
Bord Agrément na hÉireann
Irish Agrément Board

The Irish Agrément Board

This Certificate No. **06/0134** is accordingly granted by the NSAI to **InstaFibre Ltd.** on behalf of The Irish Agrément Board.

Date of Issue: **January 2002**

Signed



Seán Balfe
Director of the Irish Agrément Board

Readers may check that the status of this Certificate has not changed by contacting the Irish Agrément Board, NSAI, Glasnevin, Dublin 9, Ireland. Telephone: (01) 807 3800. Fax: (01) 807 3842. www.nsai.ie

Revisions: March 2006
General amendments