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BBA BRITISH BOARD OF AGRÉMENT
ASSESSMENT OF PRODUCTS FOR CONSTRUCTION

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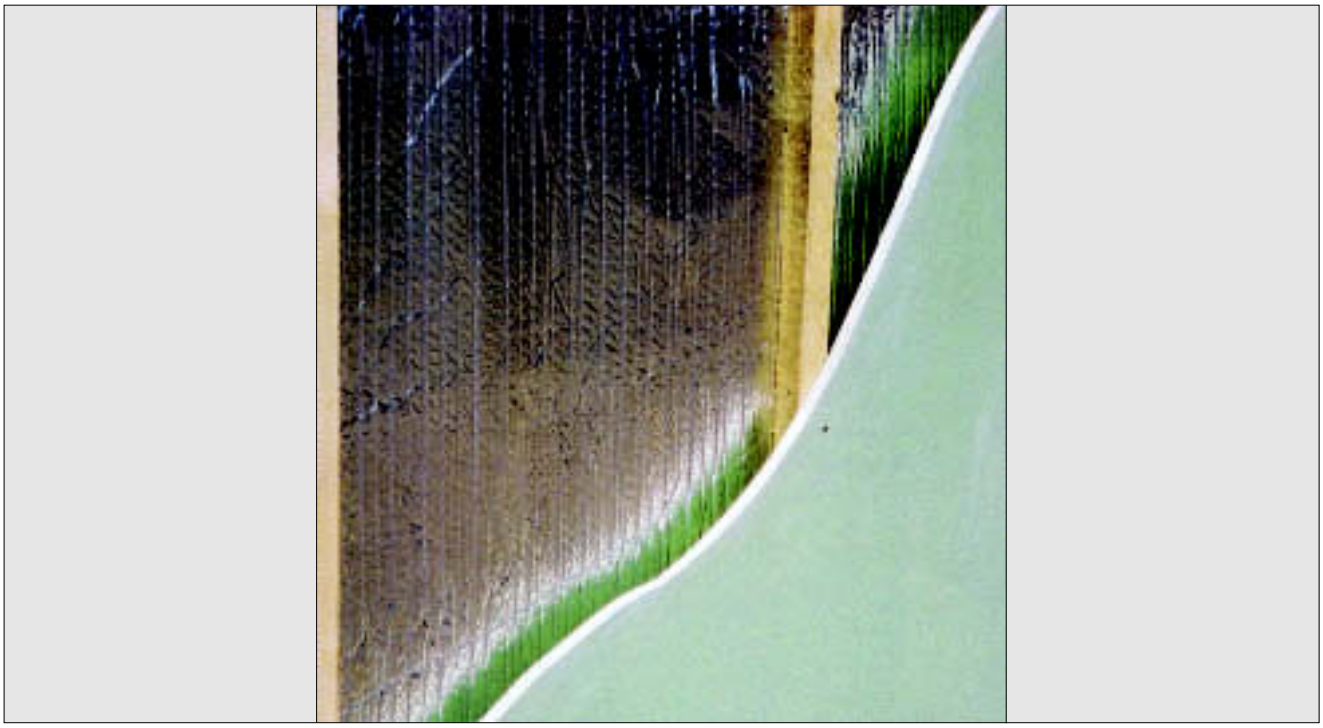
Agrément Certificate No 00/3728

Designated by Government to issue European Technical Approvals

SANFLEX 2B2 AND SANFLEX 1B1 DRY LINING WALL INSULATION

Isolation de murs
Kerndämmung

Product



- *THIS CERTIFICATE RELATES TO SANFLEX 2B2 AND SANFLEX 1B1 DRY LINING WALL INSULATION.*
- *The products comprise:*

2B2 — a double layer of polyethylene bubble sheet, faced on each side with coated aluminium foil

1B1 — a single layer of polyethylene bubble sheet, faced on one side with coated aluminium foil.

- *The products are for use as an insulating dry lining for walls of dwellings or buildings of similar occupancy, type and conditions.*
- *They can be used to improve the thermal insulation of existing and new, solid and cavity brick and blockwork walls.*

Regulations

1 The Building Regulations 1991 (as amended) (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 compliance of internal dry lining systems with the Building Regulations. In the opinion of the BBA, Sanflex 2B2 and Sanflex 1B1 Dry Lining Wall Insulation, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement:	B2	Internal fire spread (linings)
Comment:		Walls incorporating the product can meet this Requirement in every purpose group. See sections 11.1 to 11.3 of this Certificate.
Requirement:	L1	Conservation of fuel and power
Comment:		The product can contribute to meeting this Requirement. See sections 8.2 to 8.4 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 14 of this Certificate.

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

In the opinion of the BBA, Sanflex 2B2 and Sanflex 1B1 Dry Lining Wall Insulation, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and Technical Standards as listed below.

Regulation:	**10**	Fitness of materials
Standard:	B2.1	Selection and use of materials and components
Comment:		The product is acceptable. See section 14 of this Certificate.
Regulation:	**13**	Means of escape from fire, facilities for fire-fighting and means of warning of fire in dwellings
Standard:	E6.1	Internal fire spread — linings
Comment:		Walls incorporating the product can meet this Standard in every purpose group. See sections 11.1 to 11.3 of this Certificate.
Regulation:	**18**	Preparation of sites and resistance to moisture
Standard:	G4.1	Interstitial condensation
Standard:	G4.2	Surface condensation
Comment:		The product is acceptable. See sections 9.1 to 9.5 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 contribute to meeting this Standard. See sections 8.2 to 8.4 of this Certificate.

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

In the opinion of the BBA, Sanflex 2B2 and Sanflex 1B1 Dry Lining 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 acceptable. See section 14 of this Certificate.
Regulation:	**C7**	Condensation
Comment:		The product is acceptable. See sections 11.1 to 11.3 of this Certificate.
Regulation:	**E4**	Restriction of spread of flame over surfaces of walls and ceilings
Comment:		Walls incorporating the product can meet this Regulation in every purpose group. See sections 9.1 to 9.5 of this Certificate.
Regulation:	**F2**	Conservation of fuel and power
Comment:		The product can contribute to meeting this Regulation. See sections 8.2 to 8.4 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 section: *6 Delivery to site and storage.*

Technical Specification

5 Description

5.1 Sanflex 2B2 consists of two layers of polyethylene bubble film laminated with aluminium foil on each side and Sanflex 1B1 consists of one layer of bubble film and laminated with aluminium foil on one side. The aluminium foil has a thin nitrocellulose lacquer coating.

5.2 The products are supplied in rolls 1.2 m wide and 25 m long.

5.3 Ancillary components include:

aluminium adhesive tape Ref RA 1010 (40 µm thick) or RA 1312 (30 µm thick)
preservative treated battens
plasterboard to BS 1230-1 : 1985
screws
nails or staples.

6 Delivery to site and storage

6.1 The products are packed in polybags, sealed with polypropylene tape and labelled. The label details batch numbers and the BBA identification mark incorporating the number of this Certificate.

6.2 The products should be stored in clean, dry conditions.

6.3 The products are combustible and care must be exercised when storing large quantities on site. The products must not be exposed to open flame or other ignition sources and must be stored away from flammable material such as paint and solvents.

Design Data

7 General

7.1 Sanflex 2B2 and Sanflex 1B1 Dry Lining Wall Insulation will significantly improve the thermal insulation of existing and new, solid or cavity masonry walls (masonry includes clay and calcium silicate bricks, concrete blocks, natural and reconstituted stone blocks) of dwellings and buildings of similar occupancy, type and condition.

7.2 The walls of new buildings must be designed and constructed in accordance with the relevant Codes of Practice, eg BS 5628-3 : 1985, BS 5390 : 1976(1984), and the relevant recommendation of BS 8000-3 : 1989.

7.3 The walls must be in a good state of repair and without evidence of rain penetration or damp (other than surface condensation) or frost damage.

7.4 The installation of insulated dry lining systems requires careful detailing around doors and windows to achieve a satisfactory surface for finishing. In addition, every attempt should be made to minimise the risk of cold-bridging at reveals and where heavy party walls are attached to the external wall. In new work the construction must be designed to accommodate the thickness of the dry lining, particularly at reveals, heads, sills and in relation to ceiling height.

7.5 Where dry lining installations form a void, services can be incorporated behind the dry lining, making chasing of the wall unnecessary. Where possible, penetration of the products by services, such as light switches or power outlets, should be kept to a minimum to limit possible penetration of water vapour.

7.6 When the product is to be used in existing buildings it should be realised that a small reduction in room size will occur and that permanent fixtures (for example baths) will present difficulties.

7.7 Provided the product is installed neatly, the jointing and finishing systems specified are capable of providing a satisfactory surface for direct decoration without the need for further plastering.

7.8 Installation of plasterboard must be in accordance with the relevant sections of BS 8212 : 1995.

8 Thermal insulation

8.1 For the purpose of U value calculations to determine if the requirement of the national Building Regulations or Standards are met, it has been established by test and calculation that the products will provide additional thermal resistance which can be incorporated into the calculations (see Tables 1 and 2). For the purpose of establishing thermal resistance values, an emissivity of 0.05 may be used.

Table 1 Thermal resistance values for Sanflex 2B2

	Minimum airspace on either side of product	
	19 mm	25 mm
Thermal resistance value (m^2KW^{-1})*	1.34	1.58

Table 2 Thermal resistance values for Sanflex 1B1

	Minimum airspace on foil-faced side of product	
	19 mm	25 mm
Thermal resistance value (m^2KW^{-1})*	0.65	0.79

*Thermal resistances were calculated for air temperatures of 20°C internal and 0°C external in constructions using Sanflex 1B1 and Sanflex 2B2 Dry Lining Wall Insulationplus airspace(s) to achieve U values of 0.45 $Wm^{-2}K^{-1}$.

8.2 The requirement for limiting heat loss through the building fabric can 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 the national Building Regulations:

England and Wales

Approved Document L

Scotland

Technical Standards, Part J

Northern Ireland

Technical Booklet F.

8.3 Alternative approaches are also described which allow for some flexibility in design of U values for individual constructional elements.

8.4 Guidance on limiting unwanted air infiltration is also given in these documents.

8.5 The ultimate thermal performance of the system will depend on the construction of the wall against which it is installed. The dynamic performance of a structure can be determined by the admittance procedure given in CIBSE A5 : 1999 *Thermal response and plant sizing*.

8.6 The dynamic thermal performance of a building can be expressed as a ratio called the response factor (CIBSE A5 : 1999 *Thermal response and plant sizing*, equation A5.13). The use of any form of insulation will affect this factor and it should be considered when designing heating systems for new buildings. Modifications to existing heating systems may also have to be

considered in buildings upgraded by the application of the product. Guidance is given in CIBSE A5 : 1999 *Thermal response and plant sizing*.

9 Condensation and hygrothermal characteristics

9.1 The products have negligible water vapour permeance. The use of the aluminium tape enables the vapour barrier to be completed.

9.2 The use of the products does not preclude the normal precautions against formation of condensation, especially in rooms expected to have high humidities.

9.3 When using these types of product due consideration must be taken of the overall installation to minimise perforations by services, eg light switches and power outlets, and the joints at ceiling and skirting level must be well sealed.

9.4 As with any other insulation applied to the inside of a wall, there may be a risk of cold bridging from the floor or ceiling, particularly in concrete slabs construction. It has been demonstrated that the use of coving at the wall ceiling joint will significantly reduce the problem.

9.5 Insulated dry lining has been successfully used in the rehabilitation of buildings suffering from surface condensation of walls where the dampness has been caused by the lack of thermal insulation.

10 Infestation

The use of insulated dry lining does not in itself promote infestation. The creation of voids may provide habitation for insects or rodents in areas already infested. Care should be taken to ensure that, wherever possible, all voids are sealed as any infestation may be difficult to eradicate. There is no food value in the materials used.

11 Performance in relation to fire

11.1 The fire resistance of a wall will not be affected when the products are installed within an internal wall lining.

11.2 Although the products are combustible they are difficult to ignite and have a Class 1 surface spread of flame. When used in the context of this Certificate, they are unlikely to become ignited within the cavity; if fire does penetrate into an unventilated cavity, the amount of air present within the cavity will be insufficient to support combustion and flame spread will be minimal.

11.3 The position of the system with regard to the national Building Regulations and Standards is dependent upon the rating of the plasterboard and, therefore, may be used in all situations requiring a Class 0 surface rating. Details of such situations are contained in the relevant documents.

12 Impact resistance

Resistance to impact damage will vary with the thickness of plasterboard used. However, the minimum batten spacings detailed in section 15.3 of this Certificate will provide reasonable resistance to such damage.

13 Wall-mounted fittings

Any object fixed to the wall, other than lightweight items, such as framed pictures, must be fixed through the lining board into the solid wall, or into a batten, using recommended proprietary fixings.

14 Durability

The durability of the materials is satisfactory. Provided the products are fixed to satisfactory stable and durable backgrounds, they should have a life equal to the building in which they are installed. Under normal conditions of occupancy a dry lining system is unlikely to suffer damage, but should damage occur, repairs can be made easily.

Installation

15 General

15.1 Pre-lagged water pipes may be accommodated within the void created by the dry lining system.

15.2 All joints and perforations in the products must be securely sealed with the aluminium tape (see section 5.3).

15.3 Bearing surfaces for timber battens and metal furrings should comply with BS 8212 : 1995. The depth of timber battens or metal furrings will determine the air space achieved on either side of the product. The thickness of both Sanflex 2B2 and Sanflex 1B1 Dry Lining Wall Insulation must be considered as part of the design specification to achieve the required air space.

16 Procedure

Sanflex 1B1

16.1 Battens tanalised in accordance with BS 5268-5 : 1989(1997) are fixed to the wall either vertically or horizontally at 400 mm. Battens must always be placed at the top and bottom of the wall and around the perimeter of doors and windows.

16.2 The product is applied directly from the roll either vertically or horizontally depending on the wall height, pulled tight and stapled onto the battens at minimum 300 mm centres. The foil side of the material should face the cavity.

16.3 The product should be butt-jointed onto the battens and sealed using the recommended tape.

16.4 The plasterboard is fixed over the product and onto the battens in the usual manner.

16.5 Alternatively the product (foil face facing the cavity) can be retained directly against the wall by the battens at minimum 300 mm centres. The plasterboard is placed on top of the battens.

Sanflex 2B2

16.6 Follow the procedure as described in sections 16.1 to 16.3 above and fix counter battens to the wall battens through the product. Plasterboard is then fixed to the battens in the usual manner. The foil sides of the material will be facing the cavities formed by the use of the battens.

16.7 If metal furrings are to be used as an alternative method the Certificate holder should be contacted for advice.

Bibliography

BS 1230 *Gypsum plasterboard*
BS 1230-1 : 1985(1994) *Specification for plasterboard excluding materials submitted to secondary operations*

BS 5268 *Structural use of timber*
BS 5268-5 : 1989(1997) *Code of practice for the preservative treatment of structural timber*

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 8212 : 1995 *Code of practice for dry lining and partitioning using gypsum plasterboard*

Conditions of Certification

17 Conditions

17.1 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.

17.2 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.

17.3 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.

17.4 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.

17.5 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.

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In the opinion of the British Board of Agrément, Sanflex 2B2 and Sanflex 1B1 Dry Lining Wall Insulation is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 00/3728 is accordingly awarded to Sansetsu UK Ltd.

On behalf of the British Board of Agrément

Date of issue: 16th June 2000

Chief Executive

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