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Agrément Certificate
01/3812
Product Sheet 1

VR FLAT ROOF INSULATION ROOFBOARDS

JABTHERM

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Jabtherm, an expanded polystyrene for use on flat roofs.

AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Thermal performance — the product can be used to improve the thermal performance of roof (see section 5).

Condensation risk — the performance of the product with regard to interstitial and surface condensation has been considered. Roofs will limit the risk of surface and interstitial condensation adequately (see section 6).

Resistance to loading — when installed on appropriate decks, the product can be used on roofs of limited access (see section 7).

Behaviour in relation to fire — the roof system using this product can be designed to meet the UK requirements (see section 8).

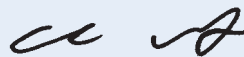
Durability — the design life of the product under typical UK conditions has been considered and the product will remain effective as an insulant for the life of the building (see section 11).



The BBA has awarded this Agrément Certificate to the company named above for the product described herein. This product has been assessed by the BBA as fit for its intended use provided it is used, installed and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 30 March 2009



Chris Hunt
Head of Approvals — Physics



Greg Cooper
Chief Executive

Originally Issued as Detail Sheet 3 (Thermadeck) on 28 March 2001

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, Jabtherm, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



The Building Regulations 2000 (as amended) (England and Wales)

Requirement:	B4(2)	External fire spread
Comment:		When used in conjunction with appropriate roof decks and roof finishes, the product can meet this Requirement. See sections 8.2 to 8.4 of this Certificate.
Requirement:	C2(c)	Resistance to moisture
Comment:		When used in conjunction with an appropriate vapour control layer, the product is acceptable. See sections 6.3 and 6.4 of this Certificate.
Requirement:	L1(a)(i)	Conservation of fuel and power
Comment:		The board will enable a roof to meet the Target Emission Rate. See sections 5.2 to 5.5 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction satisfying this Regulation. See sections 10, 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	2.8	Spread from neighbouring buildings
Comment:		When used in conjunction with appropriate roof decks and roof finishes, the product is unrestricted under this Standard, with reference to clause 2.8.1 ⁽¹⁾⁽²⁾ . See section 8.2 to 8.4 of this Certificate.
Standard:	3.15	Condensation
Comment:		When used in conjunction with an appropriate vapour control layer, the product will be unrestricted under this Standard, with reference to clauses 3.15.1 ⁽¹⁾ to 3.15.4 ⁽¹⁾ . See sections 6.1 to 6.3, and 6.5 of this Certificate.
Standard:	6.1(a)(b)	Carbon dioxide emissions
Standard:	6.2	Building insulation envelope
Comment:		The product can contribute to satisfying clauses, or parts of 6.1.1 ⁽¹⁾⁽²⁾ , 6.1.2 ⁽¹⁾ , 6.1.3 ⁽²⁾ , 6.1.6 ⁽¹⁾ , 6.2.1 ⁽¹⁾⁽²⁾ , 6.2.3 ⁽¹⁾ , 6.2.4 ⁽¹⁾⁽²⁾ , 6.2.5 ⁽¹⁾⁽²⁾ and 6.2.6 ⁽²⁾ of these Standards. See sections 5.2 to 5.5 of this Certificate. (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The product is acceptable. See section 10 of this Certificate.
Regulation:	C5	Condensation
Comment:		When used in conjunction with an appropriate vapour control layer, the product will be unrestricted under this Regulation. See sections 6.1 to 6.3 of this Certificate.
Regulation:	E5(b)	External fire spread
Comment:		When used in conjunction with appropriate roof decks and roof finishes, the product can satisfy this Regulation. See sections 8.2 to 8.4 of this Certificate.
Regulation:	F2(a)(i)	Conservation measures
Comment:		The product will enable a roof to satisfy the Elemental Method of limiting heat loss. See sections 5.2 to 5.5 of this Certificate.
Regulation:	F3(2)	Target carbon dioxide Emissions Rate
Comment:		The product can contribute to a building satisfying its Target Emission Rate. See section 5.2.

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 2 *Delivery and site handling* (2.3).

Non-regulatory Information

NHBC Standards 2008

NHBC accepts the use of Jabtherm, when installed and used in accordance with this Certificate, in relation to *NHBC Standards, Chapter 7.1 Flat roofs and balconies*.

Zurich Building Guarantee Technical Manual 2007

In the opinion of the BBA, Jabtherm, when installed and used in accordance with this Certificate, satisfies the requirements of the *Zurich Building Guarantee Technical Manual, Section 4 Superstructure*.

General

Jabtherm is satisfactory for use as a thermal insulation layer on suitably designed timber, concrete and metal structural decks in conjunction with a suitable, fully supported, waterproofing systems (see section 3.4). The board is for use on flat roofs with limited access to pedestrian traffic.

Technical Specification

1 Description

1.1 Jabtherm 3B, HP, HP Torch and Plus consist of expanded polystyrene board manufactured in accordance with BS EN 13163 : 2001.

1.2 The product is available as EPS 100 or EPS 150 containing a flame-retardant additive.

1.3 Roofing felt overlay, either Type 3B or a high performance base sheet, is factory-bonded to the upper face or both faces of the polystyrene, creating a selvedge on one length and width on the top face.

1.4 The boards are available in flat or tapered form, with plain edges, to the characteristics given in Table 1.

Table 1 Board characteristics

Characteristic	Dimensions (mm)	
	Flat board	Tapered board
Length	1200 ⁽¹⁾	1200, 600
Width	900 ⁽¹⁾	900
Thickness	20 to 600 in 5 increments	20 to 600 in 5 increments

(1) The felt overlays the insulation by 100 mm on one side of each length and width.

1.5 Nominal and physical properties of the EPS component are given in Table 2.

Table 2 Physical properties of EPS components

	EPS 100	EPS 150
Nominal density (kgm ⁻³)	20	25
Minimum compressive strength at 10% compression (kNm ⁻²)	100	150
Water vapour resistivity MNs(gm) ⁻¹	200	238

2 Delivery and site handling

2.1 The product is delivered wrapped in polyethylene. Each pack shows the manufacturer's name, grade, type marking, and the BBA identification mark incorporating the number of this Certificate.

2.2 The product must be protected from prolonged exposure to sunlight and should be stored under cover or protected with light-coloured opaque polyethylene sheets.

2.3 Care must be taken to avoid contact with solvents or materials containing volatile organic components such as coal tar, pitch, timber newly treated with creosote, etc.

2.4 The product must be stored flat, off the ground, on a clean, level surface and under cover to protect them from precipitation and high winds. Boards or slabs at the bottom of the stack should be fully supported, without cross-bearers. They must not be exposed to open flame or other ignition sources.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Jabtherm.

Design Considerations

3 Use

3.1 Jabtherm is for use as a thermal insulation layer on flat roofs with concrete, timber or metal structural decks.

3.2 Decks should be designed in accordance with the relevant Clauses of BS 8217 : 2005, BS 8218 : 1998, BS 6229 : 2003 and, where appropriate, *NHBC Standards 2008*, Chapter 7.1 and the *Zurich Building Guarantee Technical Manual 2007*, Section 4 *Superstructure*, Sub-section *Flat roofs*.

3.3 The roofs should incorporate an effective vapour control layer.

3.4 The product is for use with one of the following waterproofing specifications:

- built-up bitumen felt to BS 8747 : 2007 laid in accordance with BS 8217 : 2005
- mastic asphalt laid in accordance with BS 8218 : 1998.

3.5 Limited access roofs are defined for the purpose of this Certificate as those roofs subject only to pedestrian traffic for maintenance of the roof covering and cleaning of gutters, etc. Where traffic in excess of this is envisaged, special precautions, such as the use of higher duty grade insulation and additional protection to the waterproofing membrane must be taken.

3.6 Jabtherm and Jabtherm Torch are each available with a high-performance SBS felt layer bonded to the upper surface, and are suitable for pour-and-roll and torch-on built-up felt waterproofing specifications respectively.

3.7 Tapered boards may be used, where appropriate, to achieve the minimum finished falls required. Any existing irregularities in the roof should be overcome before a tapered system is laid.

4 Practicability of installation

The product can be readily installed by operatives experienced with this type of product.

5 Thermal Performance

5.1 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 foam component of the boards may be taken as $0.036 \text{ Wm}^{-1}\text{K}^{-1}$ for EPS 100 and $0.035 \text{ Wm}^{-1}\text{K}^{-1}$ for EPS 150. Examples of U values are given in Table 3.

Table 3 U value calculations ($\text{Wm}^{-2}\text{K}^{-1}$)

Insulation type	Jabtherm Board		Construction		
	λ value ($\text{Wm}^{-1}\text{K}^{-1}$)	Thickness (mm)	Concrete deck	Timber deck	Metal deck
EPS 100	0.036	65	0.44	0.43	0.51
		95	0.32	0.32	0.36
		135	0.24	0.23	0.26
		160	0.20	0.20	0.22
EPS 150	0.035	65	0.43	0.42	0.49
		95	0.31	0.31	0.35
		135	0.23	0.23	0.25
		160	0.20	0.20	0.21



5.2 The roof system contributes to meeting the requirements of the national Building Regulations:

England and Wales and Northern Ireland

- $0.16 \text{ Wm}^{-2}\text{K}^{-1}$ required for 'notional' dwellings in SAP 2005 (see section 4.3)
- $0.25 \text{ Wm}^{-2}\text{K}^{-1}$ required for buildings other than dwellings in SBEM
- $0.25 \text{ Wm}^{-2}\text{K}^{-1}$ limit average U value specified in Approved Documents L1A (Table 2) and L2A (Table 4), Technical Booklets F1 (Table 2.2) and F2 (Table 2.4)

Scotland

- $0.16 \text{ Wm}^{-2}\text{K}^{-1}$ U value required for the 'notional' dwellings in SAP 2005 and the 'simplified approach — all fuel packages' in Mandatory Standard 6.1, clause 6.1.6⁽¹⁾ (see section 4.3)
- $0.20 \text{ Wm}^{-2}\text{K}^{-1}$ maximum average U value specified Mandatory Standard 6.2, in clause 6.2.1⁽¹⁾ (see section 4.3)
- $0.25 \text{ Wm}^{-2}\text{K}^{-1}$ value required for 'notional' building in SBEM in Mandatory Standard 6.1, clause 6.1.3⁽²⁾
- $0.25 \text{ Wm}^{-2}\text{K}^{-1}$ maximum U value specified for the insulation, and

- $0.35 \text{ Wm}^{-2}\text{K}^{-1}$ limit value for the individual elements as per Mandatory Standard 6.2, clause 6.2.1⁽¹⁾⁽²⁾.

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

5.3 Roofs with U values lower than (or the same as for Scottish dwellings) the relevant 'notional' value in section 5.2 will contribute to a building meeting its target overall reduction in carbon dioxide emissions of about 20% (or 18% to 25% in Scotland) for dwellings and 23% to 28% for buildings other than dwellings. Roofs with higher U values will require additional energy saving measures in the building envelope and/or services.

5.4 Compliance with the guidance referred to in section 5.5 will allow the use of the default psi values from Table 3 of BRE Information Paper IP 1/06 *Assessing the effects of thermal bridging at junctions and around openings* and Table K1 of *The Government's Standard Assessment Procedure for Energy Rating of Dwellings* (SAP 2005), in Target Emission Rate calculations to SAP 2005 or the Simplified Building Energy Model (SBEM) (use 'simplified approach' for Scotland).

5.5 The product can maintain, or contribute to maintaining, continuity of thermal insulation at junctions between roof and other building elements. Guidance in this respect and on limiting heat loss by air infiltration, can be found in:

England and Wales — *Limiting thermal bridging and air leakage : Robust construction details for dwellings and similar buildings* TSO 2002.

Scotland — Accredited Construction Details (Scotland).

Northern Ireland — Accredited Construction Details (version 1.0).

5.6 These documents also give guidance on selecting the thickness of insulation required to enable a roof to achieve the desired U value. Alternative approaches to the Elemental Method are described which allow for some flexibility in design of U values for individual constructional elements.

6 Condensation risk



6.1 Boards used in conjunction with an effective vapour control layer are unlikely to be affected by interstitial condensation.

6.2 Where an effective vapour control layer is difficult to ensure (eg where the boards have additional mechanical fixings), the risk of condensation should be assessed in accordance with Appendix A of BS 6229 : 1982.

Interstitial condensation



6.3 Roofs will adequately limit the risk of interstitial condensation when they are designed and constructed in accordance with BS 5250 : 2002, Section 8.4 and Appendix D.

Surface condensation



6.4 Roofs will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $0.35 \text{ Wm}^{-2}\text{K}^{-1}$ at any point and the junctions with walls are designed in accordance with the relevant requirements of *Limiting thermal bridging and air leakage : Robust construction details for dwellings and similar buildings* TSO 2002, or BRE Information Paper IP 1/06.



6.5 Roofs will adequately limit the risk of surface condensation when the thermal transmittance (U value) does not exceed $1.2 \text{ Wm}^{-2}\text{K}^{-1}$ at any point. Guidance may be obtained from BS 5250 : 2002, Section 8, and BRE report (BR 262 : 2002) *Thermal insulation: avoiding risks*.

7 Resistance to loading

The EPS 100E grade of the product has adequate resistance to the loads associated with light maintenance traffic on felted roofs and minimal pedestrian traffic on protected felt or asphalt roofs. If there is a likelihood of more severe traffic, e.g. balconies and terraces, the EPS 150E grades should be used.

8 Behaviour in relation to fire

8.1 The fire rating of any roof containing the boards will depend heavily on the type and nature of deck, and on the roof waterproofing layer and/or the surface finish.



8.2 The designation of the roof covering must meet or satisfy the requirements of the national Building Regulations, thus:

England and Wales — Section 10 of Approved Document B. Notional designations of some common roof coverings are given in Appendix A, Table A5, of the Approved Document.

Scotland — Mandatory Standards 2.1, clause 2.1.6⁽²⁾; 2.4, clause 2.4.6⁽¹⁾⁽²⁾; clause 2.A.1⁽¹⁾⁽²⁾ and 2.B.1, clause 2.B.1⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Regulation E4 of Technical Booklet E. If, on flat roofs, the waterproof covering is protected by one of the surface finishes defined in Part IV of Table 4.6 of Technical Booklet E, the roof is deemed to be of designation AA.

8.3 Single-ply roof waterproofing membranes covered by an Agrément Certificate will contribute to meeting or satisfying the requirements of the national Building Regulations and Standards with regard to designation.

8.4 The designation of other specifications for example, when used on combustible substrates, should be confirmed by:

England and Wales — Test or assessment in accordance with Clause A1 of Appendix A of Approved Document B.

Scotland — Test to conform to Mandatory Standard 2.8, clause 2.8.1⁽¹⁾⁽²⁾

(1) Technical Handbook (Domestic).

(2) Technical Handbook (Non-Domestic).

Northern Ireland — Test or assessment by a UKAS accredited laboratory, or an independent consultant with appropriate experience.

8.5 The designation of other specifications should be confirmed by test or assessment by a UKAS accredited laboratory, the Building Research Establishment or an independent consultant with appropriate experience.

9 Adhesion

When bitumen bonded, adhesion between the insulation board component and vapour control layer (VCL) and between the boards and overlay is adequate to resist the effects of wind suction and thermal cycling likely to be experienced under normal conditions. Metal deck profiles should give a bonding area of at least 33% of the total projected surface area. In areas where high wind speeds can be expected, mechanical fixing should be considered, and the advice of the Certificate holder should be sought as to the method of fixing. Reference should be made to BS 6399-2 : 1997 where a calculation is required for a specific building project.

10 Maintenance



No maintenance of the insulation component layer will be required provided the roof waterproof covering remains intact.

11 Durability



The product is rot-resistant and durable and will have a life at least as long as the roof waterproofing covering.

Installation

12 General

12.1 Jabtherm must be installed in accordance with the Certificate holder's instructions and BS 8217 : 2005, BS 8218 : 1998, BS 6229 : 2003, or the relevant BBA Certificate, depending on the waterproofing to be applied. Bitumen and cold adhesive bonding may be augmented by mechanical fixing where appropriate.

12.2 The deck surface to which the vapour control layer is to be applied must be level, clean, dry, sound, and free from dust, grease and other defects which may prevent adhesion. All deck joints should be taped and the deck coated in primer where necessary. If necessary a levelling screed can be applied to concrete decks.

12.3 For refurbishment work the existing weatherproofing should be stripped back to the structure and any defects made good. In some circumstances it may be acceptable to retain the existing weatherproofing by removing loose chippings and cutting and sealing any blisters to provide a sound surface. However, the advice of the Certificate holder should be sought.

12.4 A suitable vapour control layer should be loose-laid on the deck, or bonded to a suitably primed deck, depending on the specified installation method. The membrane should be turned up at all perimeters and upstands and care taken to ensure integrity at all joints, upstands and roof penetrations.

12.5 Boards are laid with their edges tightly butted. Uniform thickness boards should be laid with staggered joints. Tapered boards should be laid in accordance with the Certificate holder's layout drawing provided. For detail work, boards can be handled and cut easily.

12.6 To prevent condensation, the boards should be applied only when the ambient temperature is above 5°C.

12.7 Boards must be kept dry at all times, and those accidentally wetted must be replaced or allowed to dry fully before application of the waterproof layer.

12.8 It is important to seal any exposed edges of the expanded polystyrene, for example, at roof vents and upstands, with waterproofing or bituminous felt laid in hot bitumen in accordance with normal practice as defined in BS 8217 : 2005.

12.9 Where mechanical fixings are required, the fixing rate and pattern should be predetermined in accordance with the engineer's instructions and the relevant clauses of BS 6399-2 : 1997.

12.10 On tall buildings or in areas subject to high wind loads, additional mechanical fixings at the ratio per board specified by the Certificate holder and the roof underproofing membrane manufacturer's instructions may be required.

13 Procedure

13.1 The product is installed in accordance with the relevant requirements of BS 8217 : 2005, BS 8218 :1998 and the Certificate holder's instructions (see Figures 1 and 2).

Figure 1 Built-up bitumen felt system

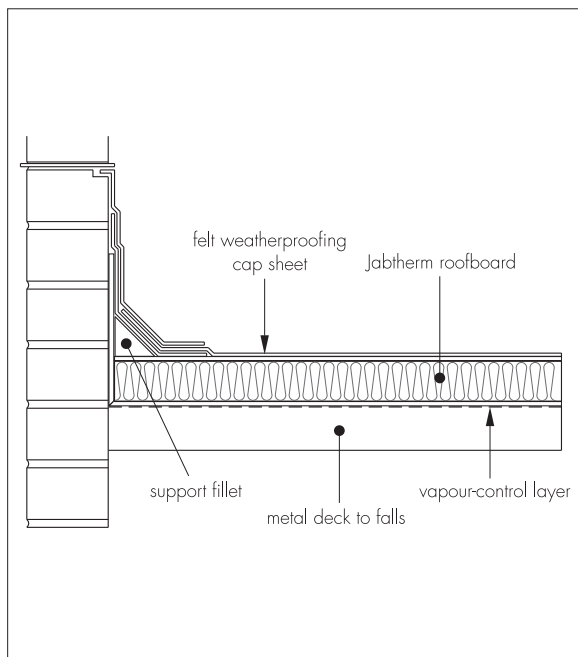
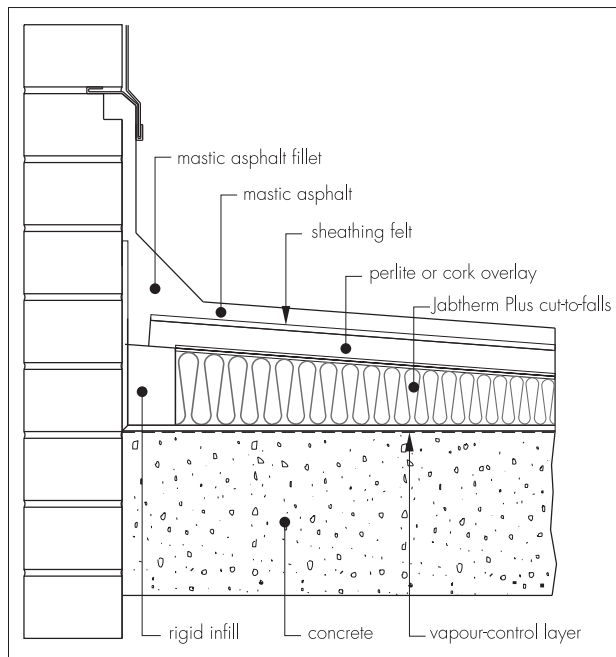


Figure 2 Mastic asphalt finish



Timber decks (eg tongue-and-groove boards, plywood)

13.2 A vapour control layer is nailed, loose-laid or bonded to the deck, depending on the specified membrane and roof waterproofing system, and turned up at all perimeters and upstands.

Jabtherm Standard

13.3 Hot bitumen adhesive or other suitable adhesive is mopped over the vapour control layer to cover the area of one board at a time and allowed to cool until tacky before the board is laid, with the felt selvedge surface uppermost.

13.4 Precautions must be taken during installation to avoid heat damage to the underside of boards from liquid bitumen. The felt layer on the upper surface of the board protects it from hot bitumen but containers of hot bitumen should not be placed directly on the felt.

13.5 Boards are laid butted together with staggered joints or, for tapered boards, as described in section 13.20. Joints are sealed by bonding the felt overlap on each board as work progresses. This provides a weatherproof surface.

13.6 A minimum 13 mm thick overlay of bitumen impregnated fibreboard, cork or perlite board is bonded to the felt by mopping a coat of hot bitumen on the surface of the overlay.

13.7 The vapour control layer is turned down and bonded to the overlay at perimeters and upstands.

13.8 A base and cap sheet is applied using pour-and-roll methods in accordance with the manufacturer's instructions as follows:

- oxidised SBS-modified or APP-modified high performance cap sheets
- mineral surfaced cap sheets.

Jabtherm Plus

13.9 A vapour control layer is loose-laid or bonded to the deck and turned up at all perimeters and upstands. Boards are set back by 50 mm at perimeters and upstands and a suitable infill in accordance with the Mastic Asphalt Council (MAC) recommendations is used to fill the gap and provide a rigid support for the mastic asphalt angle.

13.10 A minimum 20 mm thick overlay of cork or perlite board is placed over the boards and a Type 4A(i) sheathing felt to BS 747 : 2000 loose-laid over. A minimum of two layers of 10 mm thick mastic asphalt is applied in accordance with BS 8218 : 1998 and MAC recommendations.

Jabtherm HP and HP Torch

13.11 Boards are installed as described in sections 2.3 to 2.5 and the vapour control layer turned down and bonded to the felt layer at perimeters and upstands.

13.12 One of the following waterproofing cap sheets is applied using the pour-and-roll method for Jabtherm HP and the torch-on method for Jabtherm HP Torch, in accordance with the manufacturers instructions:

- oxidised SBS-modified or APP-modified high performance cap sheets
- mineral surfaced cap sheets to BS 747 : 2000.

Concrete and concrete screeded decks

13.13 A vapour control layer is loose-laid or, depending on the specification, bonded to the deck and turned up at all perimeters and upstands.

13.14 Installation proceeds as described in sections 13.3 to 13.5 and the relevant sections of 13.6 to 13.12.

Profiled metal deck

13.15 A reinforced vapour control layer, minimum Type 1F to BS 747 : 2000 is fully bonded in hot bitumen to a primed deck and laps sealed.

13.16 Installation proceeds as described in sections 13.3 to 13.15 with boards laid with the long axis at right angles to the corrugations. Board ends are cut as necessary so that they are fully supported on the crown of the profile. Boards should not exceed the maximum spans given in Table 4.

Table 4 Minimum board thickness on corrugated metal deck

	Maximum span between corrugations (mm)			
	105	110	120	135
Jabtherm	45	50	60	75

13.17 Installation proceeds as described in the relevant sections of 13.6 to 13.12.

Tapered boards (all deck and board types)

13.18 Pre-cut boards tapered to required falls are pre-labelled to the requirements of the specific building by the Certificate holder's roof layout drawing.

13.19 To provide a uniform fall it is essential that the deck is even and true. Any features such as hollows, backfalls, depressions, must be rectified prior to laying the boards.

13.20 Boards are laid sequentially in accordance with the position code number on the roof layout drawing. Laying for the roof area should commence at points or instructions indicated on layout drawing. To avoid error it is advisable to temporarily position each board prior to bonding.

13.21 Installation of tapered boards is otherwise as described in sections 13.1 to 13.17.

Technical Investigations

14 Tests

Tests were carried out on Jabtherm to determine maintenance of properties and included checks on:

- dimensional stability (pour-and-roll)
- resistance to wind uplift
- bowing under a thermal gradient
- behaviour under concentrated loads in the middle of a free span.
- resistance to peel
- dimensional stability (-20°C to +80°C)
- behaviour under distributed load and elevated temperature

15 Investigations

15.1 An examination was made of data relating to:

- flatness
- length, width and thickness
- water vapour resistance/resistivity
- compressive strength at 10% compression.
- squareness
- density
- quality of facing bond

15.2 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.

Additional Information

The quality management system of the Certificate holder has been assessed and registered as meeting the requirements of BS EN ISO 9002 :1994 by the British Standards Institution Quality Assurance Certificate No FM 01260 and appendices.

Bibliography

BS 6229 : 2003 *Flat roofs with continuously supported coverings — Code of practice*

BS 6399-2 : 1997 *Loading for buildings — Code of practice for wind loads*

BS 8217 : 2005 *Reinforced bitumen membranes for roofing — Code of practice*

BS 8218 : 1998 *Code of practice for mastic asphalt roofing*

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

BS 8747 : 2007 *Reinforced bitumen membranes (RBMs) for roofing — Guide to selection and specification*

BS EN 13163 : 2001 *Thermal insulation products for buildings — Factory made products of expanded polystyrene (EPS) — Specification*

BS EN 13501-1 : 2002 *Fire classification of construction products and building elements. Classification using test data from reaction to fire tests*

BS EN ISO 9002 : 1994 *Quality systems — Model for quality assurance in production, installation and servicing*

16 Conditions

16.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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.

16.2 Publications and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

16.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant 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.

16.4 In granting this Certificate, the BBA is not responsible for:

- 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
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

16.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does 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; 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. 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 manufacture, supply, installation, use and maintenance of this product/system.

