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**Agrément
Certificate
No 86/1593**
Third issue*



Designated by Government
to issue
European Technical
Approvals

DERBIGUM ROOFING

Revêtement d'étanchéité
Dachabdichtungen

Product



• THIS CERTIFICATE OF CONFIRMATION REPLACES CERTIFICATE No 84/1275/C AND RELATES TO DERBIGUM ROOFING, GLASS AND POLYESTER REINFORCED, POLYMER MODIFIED, BITUMEN ROOF MEMBRANES.

• The product is imported and marketed in the UK by Alumasc Exterior Building Products Ltd.

Confirmation of Belgian Agrément No ATG 1502 of the Union Belge pour l'Agrément Technique dans la construction (UBAtc), issued to Derbit Belgium SA, Parc Industriel, 5920 PERWEZ.

Regulations

1 The Building Regulations 2000 (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 the compliance of roof waterproofing membranes with the Building Regulations. In the opinion of the BBA, Derbigum Roofing, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement: **B4(2)**

External fire spread

Comment:

On flat roofs and with one of the surface finishes prescribed in Part iii of Table A5 of the Approved Document, the roof shall be deemed to be of designation AA. For other situations see sections 11.1 to 11.3 of this Certificate.

Requirement: **C4**

Resistance to weather and ground moisture

Comment:

Data for water resistance on the product, including joints, indicate that the materials satisfy the provisions of sections 6.1 of the Approved Document. See section 8.1 of this Certificate.

Requirement: **Regulation 7**

Materials and workmanship

Comment:

The product is an acceptable material. See sections 13.1 and 13.2 of this Certificate.

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



In the opinion of the BBA, Derbigum Roofing, 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 and workmanship
Standards:	B2.1 and B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product complies with these Standards. See sections 13.1 and 13.2 of this Certificate.
Regulation:	12	Structural fire precautions
Standard:	D9.1	Fire spread from adjacent buildings
Comment:		Test data to BS 476-3 : 1958 indicate that on suitable substructures the use of the product will be unrestricted by the requirements of these Standards. See sections 11.1 and 11.3 of this Certificate.
Regulation:	17	Preparation of sites and resistance to moisture
Standard:	G3.1	Resistance to precipitation
Comment:		Data for water resistance on the product indicate that the use of the product can enable a roof to satisfy the requirements of this Standard. See section 8.1 of this Certificate.

3 The Building Regulations (Northern Ireland) 2000



In the opinion of the BBA, Derbigum Roofing, 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 sections 13.1 and 13.2 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		Data for water resistance of the product, including joints, indicate that the use of the product can enable a roof to meet the requirements of this Regulation. See section 8.1 of this Certificate.
Regulation:	E5	External fire spread
Comment:		Test data obtained from tests to BS 476-3 : 1958 indicate that on suitable substructures the use of the product will enable a roof to be unrestricted under the requirements of this Regulation. See sections 11.1 to 11.3 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended) Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

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

See section: 5 Description (5.7).

Technical Specification

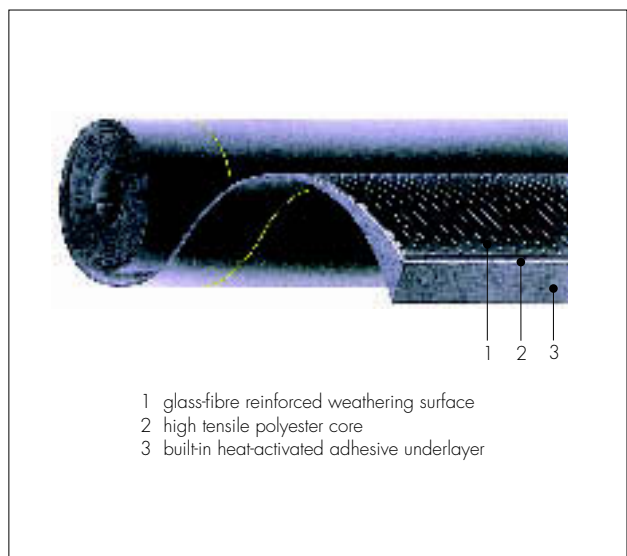
5 Description

5.1 Derbigum roofing membranes are polymer modified bitumen sheets containing a polyester core and glass-fibre mat. The underface is a heat-activated adhesive layer. The membranes are available in two surface finishes, self or mineral.

5.2 The membranes are manufactured by saturating and coating a non-woven polyester (minimum 110 gm^{-2}) and a glass tissue (minimum 50 gm^{-2}) with a mixture of bitumen, polypropylene resins and small amounts of inert fillers.

5.3 The two reinforcing layers are situated in the upper half of the membrane, the glass-fibre mat being separated from the polyester with its weave visible on the upper surface (see Figure 1).

Figure 1 Derbigum roofing membrane



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5.4 The membranes can be installed using four different methods of installation, they are:

- (1) the Derbigum Torch System — fully bonded by torching.
- (2) the Derbigum Rapido System — fully bonded in Derbibond S with laps and details torch bonded.
- (3) the Derbigum NoFlame System — fully bonded in Derbibond S with laps and details hot-air welded.
- (4) the Derbigum Cold System — fully bonded by Derbibond S with laps and details sealed with Derbiseal S.

5.5 The following ancillary items are for use with the membranes:

Derbiprimer S — for use in preparation of the substrate prior to the application of the system.

Derbibond S — a bituminous cold-applied adhesive for use in the Derbigum Rapido, NoFlame and Cold systems.

Derbimastic S — a bituminous cold-applied adhesive for use in detailing with the NoFlame and Cold System.

Derbiseal S — a bituminous cold adhesive for sealing laps in the Derbigum Cold System.

5.6 Quality control tests include checks on the characteristics of the polyester, glass-fibre mat, coating compound and finished product.

5.7 The membranes are manufactured to the nominal dimensions given in Table 1.

Table 1

Dimensions (units)	Derbigum Black	Derbigum Mineral
thickness (mm)	4	4.5
length (m)	8	7.27
width (m)	1.1	1.1
weight (nominal) (kgm ⁻²)	4.2	5.0
weight per roll (nominal) (kg)	37	40

6 Delivery and site handling

6.1 The membranes are delivered to site in rolls with plastic wrappings bearing the manufacturer's name and the BBA identification mark incorporating the number of this Certificate.

6.2 Rolls should be stored on end on a clean, level surface and kept dry.

Design Data

7 General

7.1 Derbigum is satisfactory for use as:

- (a) a cap sheet in a multi-layer system based on traditional bitumen felts on flat or pitched roofs with limited access.
- (b) a fully bonded repair medium for existing traditional felt or mastic asphalt roofs (ie as a complete overlay).

7.2 Limited access roofs are defined for the purpose of this Certificate as those roofs subjected 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 additional protection to the membrane, must be taken.


7.3 When designing flat roofs, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including overall and local deflection, direction of falls, etc. Flat roofs are defined for the purpose of this Certificate as those roofs having a minimum finished fall of 1:80. Pitched roofs are defined as those having falls in excess of 1:6.

7.4 Decks to which the product is to be applied must comply with the relevant requirements of BS 6229 : 1982, BS 8217 : 1994 and, where appropriate, NHBC Standards, Chapter 7.1 or the Zurich Building Guarantees Technical Standards, Section 5, clause 5.9.3.19.

7.5 Insulation materials used in conjunction with the product must be:

- (a) as described in the relevant clauses of BS 8217 : 1994, or
- (b) the subject of a current BBA Certificate and be used in accordance with and within the limitations of that Certificate.

8 Weathertightness

 8.1 Data confirm that the membranes and joints in the membrane, when completely sealed and consolidated, will adequately resist the passage of moisture to the inside of the building and so meet the requirements of the national Building Regulations:

England and Wales

Approved Document C4, Section 5.1

Scotland

Regulation 17, Standard G3.1

Northern Ireland

Regulation C4.

8.2 The membranes will maintain their integrity as a weathertight roof covering in all normal conditions of exposure and can accept minor structural movements without damage.


9 Adhesion


The membranes can be used as a cap sheet for systems based on traditional bitumen felts, or as a repair medium for such roofs. The adhesion to these materials is sufficient to resist the effects of wind suction, elevated temperatures and thermal shock likely to occur in practice.

10 Resistance to foot traffic

Data indicate that the membranes can accept, without damage, the limited foot traffic and light concentrated loads associated with installation and maintenance operations. Reasonable care should be taken, however, to avoid puncture with sharp objects or concentrated loads.

11 Properties in relation to fire

 11.1 A system comprising a 19 mm thick plywood deck with one layer of glass-based felt and one layer of Derbigum Mineral, achieved a rating of EXT.F.AA when tested in accordance to BS 476-3 : 1958.

 11.2 When used for flat roofs with one of the surface finishes defined in the Building Regulations (and listed) the roof is deemed to be of designation AA:

England and Wales


Approved Document B, Appendix A, Table A5, Part iii

Northern Ireland

Technical Booklet E, Table 4.6 of Part IV.

Surface finishes:

- bitumen bedded stone chippings covering the whole surface to a depth of not less than 12.5 mm
- bitumen bedded tiles of a non-combustible material
- sand and cement screed, or
- macadam.

 11.3 The designation of other specifications (eg on combustible substrates) should be confirmed by:

England and Wales

test and assessment in accordance with Approved Document B, Appendix A, Clause A1

Scotland

test to conform to Standard D9.1


Northern Ireland

test or assessment by a UKAS accredited laboratory or an independent consultant with appropriate experience.

12 Maintenance

In the event of damage, the sheet can be effectively repaired, after cleaning, with pieces of the membrane torch welded to the damaged area or by other methods subject to consultation with the Certificate holder.

13 Durability

 13.1 Derbigum Roofing has been in use throughout Europe since 1966 and has performed satisfactorily, requiring minimal

maintenance. Accelerated weathering tests confirm that satisfactory retention of physical properties is achieved.

13.2 All available evidence indicates that when installed on stable substrates subjected to regular maintenance the product can have a life in excess of 30 years.

Installation

14 General

14.1 Installation of Derbigum Roofing is carried out in accordance with the manufacturer's instructions and the relevant clauses of BS 8000-4 : 1989 and BS 8217 : 1994. Installation must be carried out by applicators approved by the Certificate holder.

14.2 Deck surfaces must be dry, clean and free from sharp projections such as nail heads, concrete nibs.

14.3 The membranes may be laid in conditions normal to roofing work and must not be laid in rain, snow or heavy fog, nor if the temperature falls below 5°C, unless precautions against condensation have been taken.

14.4 If the roof is likely to be subjected to uncontrolled pedestrian access, the substructure must meet the requirements of clause 8.3 of BS 8217 : 1994, and to prevent damage to the roof covering one of the appropriate surface finishes referred to in clauses 8.11 and 8.13 of the code must be used.

14.5 At falls in excess of 5° (1:11), the nominal precautions against slippage and the provision for mechanical fixings as required by BS 8217 : 1994 should be observed.

14.6 In renovation of existing roofs, blisters should be opened and flattened or removed, and cracks repaired before installation of the top layer.

14.7 Derbigum (mineral or black), when used on roofs with limited access requires no further protection.

14.8 The roofing layers must always be installed with staggered overlaps and in such a manner that no counter-seams in the direction of outlets are made.

14.9 On completion of the roof, the self-finished membrane, when used as a top layer, may have a surface finish applied in accordance with BS 8217 : 1994, clauses 8.11 and 9.17. Surface finishes in the Code of practice include:

- stone aggregate in dressing compound
- pre-cast concrete paving flags
- proprietary tiles in bonding compound.

15 Procedure

Derbigum Torch System

15.1 Where required, the substrate should be primed using Derbiprimer S.

15.2 Bonding is achieved by melting the lower surface by torching and pressing down.

15.3 When used as a cap sheet in a multi-layer system the membranes are always bonded to a base layer complying with BS 747 : 2000 or higher performance glass-fibre roofing sheets. Polyester reinforced felts should not be used.

15.4 When used in a partially bonded specification, a type 3G felt to BS 747 : 2000 or equivalent should be used beneath the base layer.

15.5 Side laps should be a minimum overlap of 75 mm and end laps a minimum overlap of 100 mm. All laps should be pressure rolled using a lap roller.

Derbigum Rapido System

15.6 Derbibond S is applied to the substrate at a rate of 1 kgm⁻² (unless otherwise indicated by the specification). The membranes are unrolled into the freshly applied mastic.

15.7 Lap joints are sealed by torching, and should be a minimum overlap of 75 mm at sides and 150 mm at ends. Care should be taken to avoid getting Derbibond S on the lap area. All laps should be pressure rolled with a lap roller.

Derbigum NoFlame System

15.8 The main installation is carried out by the same procedure as the Rapido System (see section 15.6).

15.9 Lap joints are sealed by hot-air welding. Side laps should be a minimum overlap of 100 mm and end laps a minimum overlap of 150 mm. Care should be taken to avoid getting Derbibond S on the lap area. All laps should be pressure rolled using a lap roller.

15.10 Flashing pieces are applied using Derbimastic S, with angles and overlaps formed by hot-air welding.

Derbigum Cold System

15.11 The main installation is carried out by the same procedure as the Rapido System (see section 15.6).

15.12 Lap joints are sealed with Derbiseal S, with overlap of 100 mm at sides and 150 mm at ends. Care should be taken to avoid getting Derbibond S on the lap area. All laps should be pressure rolled with a lap roller.

The following is a summary of the technical investigations carried out on Derbigum Roofing.

16 Tests

The technical data in UBAtc Agrément ATG 1502 were evaluated in the context of UK roofing practice and building regulations. These data are summarised in Tables 2 to 4.

Table 2 Physical properties (directional)

Test (units)	Method ⁽¹⁾	Mean result	
		Longitudinal	Transverse
Tensile strength (N per 50 mm)	MOAT 30 : 6C	544	511
Elongation at break (%)	MOAT 30 : 6C	72	67
Tear strength (N)	MOAT 27 : 5.4.1	210	210
Unrestricted shrinkage (%)	MOAT 27 : 5.1.6	+0.14	-0.10

(1) The test documents are detailed in the *Bibliography*. Numbers in the table refer to sections/parts of the various documents.

Table 3 Service performance

Test (units)	Method ⁽¹⁾	Result
Dynamic impact	MOAT 27 : 5.1.10	
expanded perlite substrate		I ₂
expanded polystyrene substrate		I ₂
Static indentation	MOAT 27 : 5.1.9	
concrete substrate		L ₂
expanded perlite substrate		L ₃
expanded polystyrene substrate		L ₃
Fatigue resistance	MOAT 30 : 6K	satisfactory
Low temperature flexibility (°C)	MOAT 30 : 6D	
unaged		no cracks at -3
aged for 2 months at 70°C		no cracks at -5
aged for 4 months at 70°C		no cracks at -2
aged for 6 months at 70°C		no cracks at -2
exposed to UV light for 1000 hours		no cracks at -10
exposed to UV light for 2000 hours		no cracks at -7
Flow temperature (°C)	MOAT 30 : 6E	
unaged		155
aged for 6 months at 70°C		155
μ factor	MOAT 27 : 5.1.11	~30000
Wind uplift ⁽²⁾	MOAT 27 : 5.1.2	satisfactory

(1) The test documents are detailed in the *Bibliography*. Numbers in the table refer to sections/parts of the various documents.

(2) Wind uplift carried out on torched and cold-applied adhesive systems.

Table 4 Joints

Test (units)	Method ⁽¹⁾	Result
Tensile strength/shearing (N per 50 mm)		
in the new condition	MOAT 27 : 5.2.2	520
aged for 28 days at 80°C	MOAT 27 : 5.2.3	770
aged for 7 days, in water, at 60°	MOAT 27 : 5.2.4	640

(1) The test document is detailed in the *Bibliography*. Numbers in the table refer to sections/parts of the document.

17 Investigations

- 17.1 Existing data on fire performance of the product were examined.
- 17.2 User surveys have been carried out to assess the performance in use of the product.
- 17.3 Existing sites installed between 1974 to 1976 were visited in 1990, 1995 and 2000 to assess the durability of the product.
- 17.4 Data from BDA Dakadvies B.V. on durability testing were examined.
- 17.5 Data on the coating mass and reinforcements used in the product were examined.

Bibliography

- BS 476-3 : 1958 *Fire tests on building materials and structures — External fire exposure roof test*
- BS 747 : 2000 *Reinforced bitumen sheets for roofing — Specification*
- BS 6229 : 1982 *Code of practice for flat roofs with continuously supported coverings*
- BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*
- BS 8217 : 1994 *Code of practice for built-up felt roofing*
- MOAT No 27 : 1983 *General Directive for the Assessment of Roof Waterproofing Systems*
- MOAT No 30 : 1984 *Special Directives for the Assessment of Reinforced Waterproof Coatings in Atactic Polypropylene (APP) Polymer Bitumen*

Conditions of Certification

18 Conditions

18.1 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.

18.2 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.

18.3 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) remain covered by a valid Belgian Agrément; and

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

18.4 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.

18.5 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, Derbigum Roofing is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 86/1593 is accordingly awarded to Alumasc Exterior Building Products Ltd.

On behalf of the British Board of Agrément

Date of Third issue: 12th December 2002

Chief Executive

**Original Certificate issued 17th March 1986. This revised version issued to include change of Certificate holder, reference to the revised Building Regulations and associated text, extended Durability statement, and revision of references to documents and associated text.*

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For additional information about the Certificate, tel: 01923 665300.
For information about Agrément Certificate validity and scope, tel: Hotline 01923 665400, or check the BBA website.