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Agrément Certificate No 05/4291

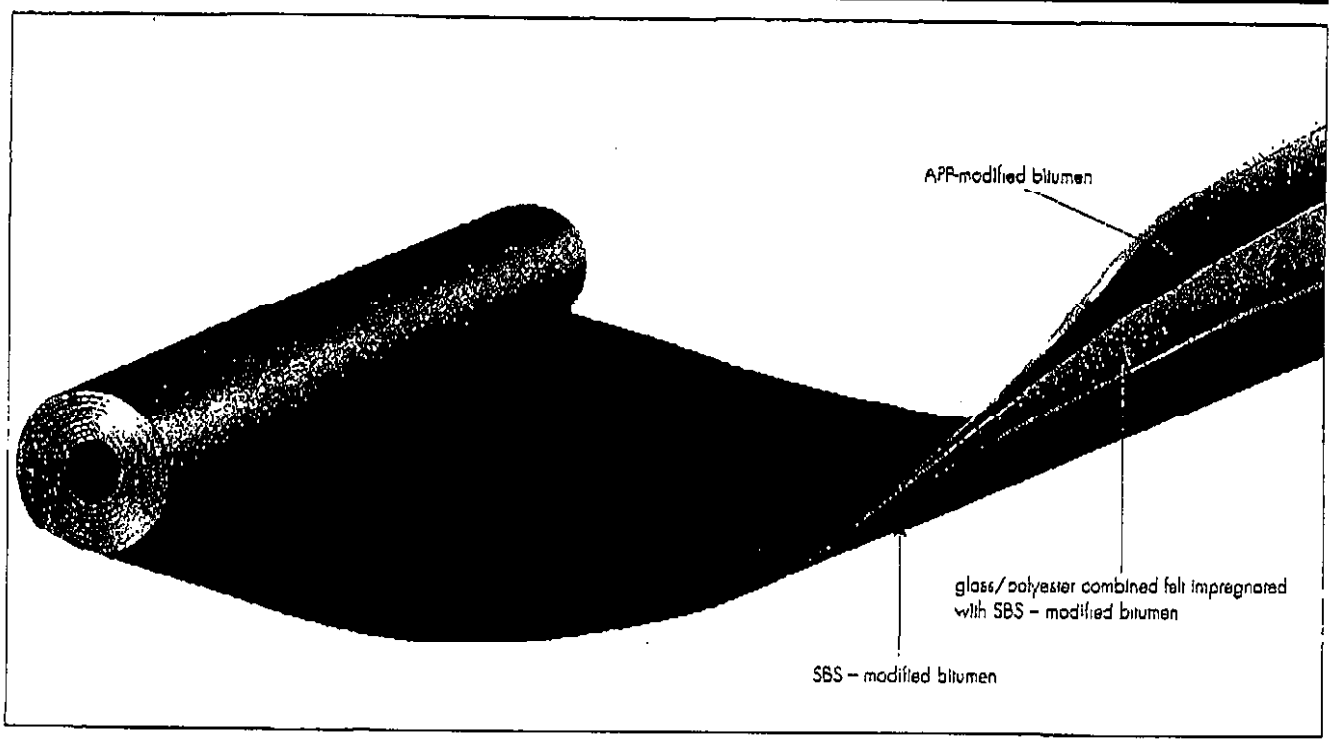
BBA BRITISH BOARD OF AGRÉMENT
TECHNICAL APPROVALS FOR CONSTRUCTION

Designated by Government to issue European Technical Approvals

INDEX PROTEADUO TRIARMATO 4 MM AND MINERAL PROTEADUO TRIARMATO ROOF WATERPROOFING SYSTEMS

Système d'étanchéite
Dachabdichtungen

Product



- *THIS CERTIFICATE RELATES TO INDEX PROTEADUO TRIARMATO 4 MM AND MINERAL PROTEADUO TRIARMATO ROOF WATERPROOFING SYSTEMS, A RANGE OF REINFORCED BITUMEN MEMBRANES.*
- *The membranes are available with either a non-woven polypropylene fleece or mineral finish. The lower surfaces have a thermofusible film.*
- *The products are manufactured by Index SpA.*
- *The membranes are for use as loose-laid, partially-bonded or fully-adhered roof waterproofing systems for use on flat or pitched roofs with limited access.*
- *Installation must be carried out only by trained and approved contractors.*

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, Index Proteaduo Triarmato 4 mm and Mineral Proteaduo Triarmato Roof Waterproofing Systems, 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:		Data obtained from tests for BS 476-3 : 1958 indicates that on suitable non-combustible substrates the use of the systems will enable a roof to be unrestricted under the requirements of this Regulation. See sections 11.1 to 11.3 of this Certificate.
Requirement:	C2(b)	Resistance to moisture
Comment:		Data for water resistance of the membranes including joints, indicate that the material meets this Requirement. See sections 8.1 and 8.2 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The systems comprise acceptable materials. See sections 13.1 and 13.2 of this Certificate.

2 The Building (Scotland) Regulations 2004

In the opinion of the BBA, Index Proteaduo Triarmato 4 mm and Mineral Proteaduo Triarmato Roof Waterproofing Systems, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Mandatory Standards as listed below.

Regulation:	8	Fitness and durability of materials and workmanship
Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The systems can contribute to a construction satisfying this Regulation. See sections 13.1 and 13.2 and the *Installation* part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	2.8	Spread from neighbouring buildings
Comment:		Data obtained from tests to BS 476-3 : 1958 indicate that on suitable substructures the use of the systems will enable a roof to be unrestricted under this Standard with reference to clauses 2.8.1[1][2] and 2.8.2[1][2]. See sections 11.1 to 11.3 of this Certificate.
Standard:	3.10	Precipitation
Comment:		Tests for water resistance of the membrane, including joints, indicate that the use of the systems will enable a roof to satisfy the requirements of this Standard with reference to clauses 3.10.1[1][2] and 3.10.6[1][2]. See the sections 8.1 and 8.2 of these Front Sheets.
Regulation:	12	Building standards — conversions
Comment:		All comments given for these systems under Regulation 9, also apply to this Regulation with reference to clause 0.12.1[1][2] and Schedule 6[1][2].

(1) Technical Handbook (Domestic).
(2) Technical Handbook (Non-Domestic).

3 The Building Regulations (Northern Ireland) 2000

In the opinion of the BBA, Index Proteaduo Triarmato 4 mm and Mineral Proteaduo Triarmato Roof Waterproofing Systems, 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 membrane is an acceptable material. See sections 13.1 and 13.2 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		Tests for water resistance of the systems, including joints, indicate that the use of the systems will enable a roof to satisfy the requirements of this Regulation. See sections 8.1 and 8.2 of this Certificate.
Regulation:	E5	External fire spread
Comment:		Data obtained from tests to BS 476-3 : 1958 indicate that on suitable substructures the use of the systems 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* (5.4) of this Certificate.

5 Description

5.1 Index Proteaduo Triarmato 4 mm and Mineral Proteaduo Triarmato Roof Waterproofing Systems consist of an APP-modified bitumen upper layer and a layer of SBS-modified bitumen lower layer reinforced with glass/polyester combined felt.

5.2 The upper surface of the Proteaduo Triarmato 4 mm is a non-woven polypropylene fabric finish and the Mineral Proteaduo Triarmato has a mineral finish with the following colours: natural slate, red, green, black, brown and white. The lower surface of both the membranes is a thermofusible polyethylene film.

5.3 The mineral finished membranes are suitable for use, where appropriate, as an exposed cap sheet or in detail work.

5.4 The products are manufactured to the nominal dimensions as shown in Table 1.

Table 1 Nominal dimensions

	Proteaduo 4 mm	Mineral Proteaduo
Thickness (mm)	4	4 on selvedge
Length (m)	10	10
Width (m)	1	1
Weight per unit area (kgm^{-2})	4.4	5.4

5.5 Ancillary items for use with the systems include:

- Indever — a bituminous solution containing bitumen and quick-drying solvents for use as a primer for dry concrete
- Indever Motorways — bituminous solution containing bitumen and quick-drying solvents suitable for application as a primer on damp surfaces.

5.6 Quality control checks are carried out on incoming raw material, during production and on the final product include:

- dimensions
- weight
- tensile strength and elongation
- heat resistance
- dimensional stability.

6 Delivery and site handling

6.1 The rolls are delivered to site on polyethylene shrink-wrapped pallets. Each roll bears two tapes giving a description of the product name, type of reinforcement and thickness, and the BBA identification mark incorporating the number of this Certificate.

6.2 Rolls should be stored in an upright position on a clean, level surface and kept under cover.

6.3 Indever and Indever Motorways have a flashpoint of 5°C and are classified as 'Highly Flammable' under the Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3) and should be stored in accordance with the Highly Flammable Liquids and Petroleum Gases Regulation 1997.

7 General

7.1 Index Proteaduo Triarmato 4 mm and Mineral Proteaduo Triarmato Roof Waterproofing Systems are suitable for use as:

- a single layer, loose-laid and ballasted waterproofing systems on flat roofs
- fully or partially-bonded systems for pitched or flat roofs.

7.2 The mineral finished membrane is suitable for use, where appropriate, as an exposed cap sheet or in detailing.

7.3 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. Where traffic in excess of this is envisaged, special precautions, such as additional protection to the membrane, must be taken.

7.4 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. For design purposes, twice the minimum finished fall should be assumed, unless a detailed analysis of the roof is available, including overall, local deflections and direction of falls.

7.5 Decks to be applied with these systems must comply with the relevant requirements of BS 6229 : 2003, BS 8217 : 2005 and, where appropriate, NHBC Standards, chapter 7.1 or the *Zurich Building Guarantee Technical Manual*, Section 4 *Superstructure, Sub-section Flat roofs* (pages 259 and 260).

7.6 Insulation systems or materials used in conjunction with these systems must be either:

- as described in the relevant clauses of BS 8217 : 2005, or
- the subject of a current BBA Certificate and be used in accordance with and within the limitations of that Certificate

8 Weathertightness

8.1 Tests 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 thus:

England and Wales

Approved Document C, Requirement C2(b) Section 6.0

Scotland

Mandatory Standard 3.10

Northern Ireland

Regulation C4.

8.2 The membrane is impervious to water and when used in the systems described will give a weathertight roof covering capable of withstanding minor structural movements without damage.

9 Resistance to wind uplight

9.1 Data examined indicate that the adhesion of the bonded systems to the decking, is sufficient to resist the effects of wind suction likely to occur in practice.

9.2 The precise ballast requirement for a loose-laid system should be calculated in accordance with the relevant parts of BS 6399-2 : 1997 but should not be below a minimum thickness of 50 mm. The use of concrete slabs on suitable protective supports should be considered in areas of high design wind loads.

10 Resistance to foot traffic

The systems can accept, without damage, the limited foot traffic and light concentrated loads associated with installation and maintenance operations. Where traffic in excess of this is envisaged, additional protection to the membrane in accordance with the manufacturer's instructions must be provided. However, reasonable care should be taken to avoid puncture by sharp objects or concentrated loads.

11 Properties in relation to fire

11.1 When tested in accordance with BS 476-3 : 1958:

- a system comprising 13 mm thick plasterboard deck, one layer of Prominent torch applied to deck, 50 mm thick Rockwool Insulation and one layer of Mineral Proteaduo Triarmato, achieved a rating of EXT.FAC
- a system comprising 13 mm thick plasterboard deck, one layer of Prominent torch applied to the deck, 50 mm thick Rockwool insulation, and one layer of Mineral Proteaduo Triarmato, achieved a rating of EXT.SAB.

11.2 The systems when used in a loose-laid and ballasted specification, including a minimum surface finish of 50 mm aggregate, should be deemed to satisfy BS 476-3 : 1958, designation EXT FAA.

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

England and Wales

Test or assessment in accordance with Approved Document B, Appendix A, clause A1.

Scotland

Test to conform with Mandatory Standard 2.8

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 sheets can be effectively repaired, after cleaning, by bonding pieces of the appropriate membrane to the damaged area.

13 Durability

13.1 The systems when subjected to normal conditions of exposure and use, will retain their integrity for a period of at least 20 years.

13.2 With the mineral surfaced products, after some years, some localised loss of the mineral surfacing may occur in areas where complex detailing of the roof design is incorporated.

Installation

14 General

14.1 When installing Index Proteaduo Triarmato 4 mm and Mineral Proteaduo Triarmato Roof Waterproofing Systems, deck surfaces must be dry, clean and free from sharp projections such as nail heads and concrete nibs.

14.2 Installation of these products is carried out using traditional methods for laying bituminous felts, in accordance with the manufacturer's instructions, the relevant clauses of BS 8000-4 : 1989 and BS 8217 : 2005.

14.3 The systems should not be laid in rain, snow or heavy fog. When installing the membranes below 5°C precautions should be taken against the formation of condensation on the substrate.

14.4 At falls in excess of 1:6, the normal precautions against slippage and the provision for mechanical fixings as required by BS 8217 : 2005 should be observed.

14.5 If the roof is likely to be subjected to uncontrolled pedestrian access, the substructure must meet the requirements of the relevant Clauses of BS 8217 : 2005, and one of the surface finishes described in Clause 9.17.3 or 9.17.4 of the code must be used to prevent damage to the roof covering.

14.6 On completion of the roof, the polyethylene fabric top layers shall have a surface finish applied