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Agrément Certificate
95/3211
Product Sheet 1

ICOPAL DAMP PROOF MEMBRANES

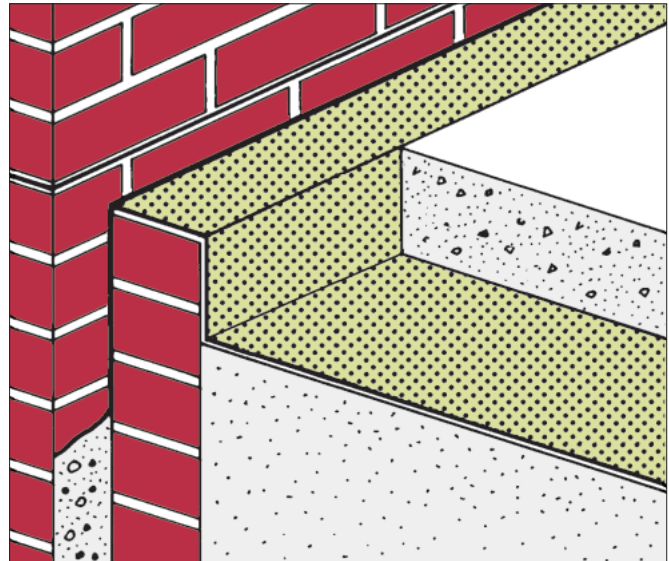
MONARFLEX ULTRA 250 AND 300 DAMP-PROOF MEMBRANES

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Monarflex Ultra 250 and 300 Damp-Proof Membranes, reinforced HDPE/LDPE polyethylene membranes for use in solid concrete ground floors not subject to hydrostatic pressure to protect buildings against moisture from the ground.

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

Resistance to water and water vapour — the products, including joints, will resist the passage of moisture into the structure (see section 5).

Resistance to puncture — the products have a high resistance to puncture (see section 6).

Durability — under normal service conditions the products will provide an effective barrier to the transmission of moisture for the life of the structure in which they are incorporated (see section 9).

The BBA has awarded this Agrément Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Simon Wroe
Head of Approvals — Materials

Greg Cooper
Chief Executive

Date of First issue: 21 November 2011

Originally certified on 5 December 1995

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, Monarflex Ultra 250 and 300 Damp-Proof Membranes, 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 2010 (England and Wales)

Requirement:	C2(a)	Resistance to moisture
Comment:		The products, including joints, will enable a floor to meet this Requirement. See section 5 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The products are acceptable. See section 9.1 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The products satisfy the requirements of this Regulation. See section 9.1 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.4	Moisture from the ground
Comment:		The products, including joints, will enable a floor to satisfy the requirements of this Standard, with reference to clauses 3.4.1 ⁽¹⁾⁽²⁾ , 3.4.2 ⁽¹⁾⁽²⁾ and 3.4.4 ⁽¹⁾⁽²⁾ to 3.4.6 ⁽¹⁾⁽²⁾ . See section 5 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The products can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	12	Building standards – conversions
Comment:		Comments made in relation to these products under Regulation 9, Standards 1 to 6 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).



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

Regulation:	B2	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 9.1 and the <i>Installation</i> part of this Certificate.
Regulation:	C4(a)	Resistance to ground moisture and weather
Comment:		The products, including joints, will enable a floor to satisfy the requirements of this Regulation. See section 5 of this Certificate.

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: 1 *Description* (1.2) of this Certificate.

Additional Information

NHBC Standards 2011

NHBC accepts the use of Monarflex Ultra 250 and 300 Damp-Proof Membranes, when installed and used in accordance with this Certificate, as meeting *NHBC Standards Chapter 5.1 Substructure and ground bearing floors* clauses M8 *Damp-proof membrane* (for use below the slab and in sandwich constructions).

Technical Specification

1 Description

1.1 Monarflex Ultra 250 and 300 Damp-proof Membranes consist of a green, high-density, polyethylene (HDPE), reinforcing grid with blown films of clear, extruded, low-density polyethylene (LDPE) laminated on each side, forming a monolithic membrane.

1.2 The nominal characteristics of the membranes are given in Table 1.

	Ultra 250	Ultra 300
Thickness (μm)	250	300
Width (m)	2 or 4	2 or 4
Roll length (m)	25	25
Mass per unit area ($\text{kg}\cdot\text{m}^{-2}$)	0.27	0.32

1.3 Other products used with the membranes are:

- Monobond Double Sided Sealant Tape – a non-hardening, permanently flexible synthetic rubber sealant tape used for joining the membranes.

1.4 Quality control checks are carried out on the raw material, during production and on the final product.

2 Delivery and site handling

2.1 Rolls are wrapped individually in shrink-wrap polythene. Each roll bears a product description label and the BBA identification mark incorporating the number of this Certificate.

2.2 Rolls should be stored on side, under cover and on a flat, level surface, and protected from sunlight.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Monarflex Ultra 250 and 300 Damp-Proof Membranes.

Design Considerations

3.1 Monarflex Ultra 250 and 300 Damp-proof Membranes are suitable for use in concrete floors not subject to hydrostatic pressure, in accordance with the relevant Clauses of CP 102 : 1973.

3.2 The products can be installed either as an oversite membrane, between a blinded hardcore bed and the base concrete slab, as a sandwich membrane in a base concrete slab or between the base concrete slab and the screed.

3.3 The products will remain flexible at temperatures likely to occur in practice.

4 Practicability of installation

The products can be installed by a competent general builder, or a contractor, experienced with this type of product.

5 Resistance to water and water vapour



The membranes and the methods of jointing provide an effective barrier to the passage of moisture from the ground and will enable a floor to comply with the requirements of the national Building Regulations, if installed in the manner described in the relevant documents.

6 Resistance to puncture

The products have a high resistance to puncture. On smooth or blinded surfaces they will not be damaged by normal foot or site traffic (eg wheelbarrows) but care must be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screeds, since they can be punctured by sharp objects.

7 Underfloor heating

When used in accordance with this Certificate, there will be no adverse effect on the membranes from underfloor heating under normal operating conditions. However, the Certificate holder's advice should be sought.

8 Maintenance

As the products are confined and have suitable durability, maintenance is not required. Any damage occurring during installation must be repaired prior to overlaying with concrete, see section 12.

9 Durability



9.1 When subject to normal conditions of use, the membranes will provide an effective barrier to the transmission of moisture for the life of the concrete slab in which they are installed.

9.2 Long periods of exposure to ultraviolet light will reduce the effectiveness of the membranes. The membranes should be protected from such exposure during storage and installation.

Installation

10 General

10.1 Installation of Monarflex Ultra 250 and 300 Damp-proof Membranes should be in accordance with the Certificate holder's instructions and CP 102 : 1973, Clause 11, the relevant Clauses of BS 8000-4 : 1989, and section 11 of this Certificate.

10.2 The products must be kept clean and free from dirt and grease.

10.3 Unless the base is smooth, a surface blinding of soft sand (or similar material) should be used to prevent puncturing during installation or when the concrete or screed is being placed.

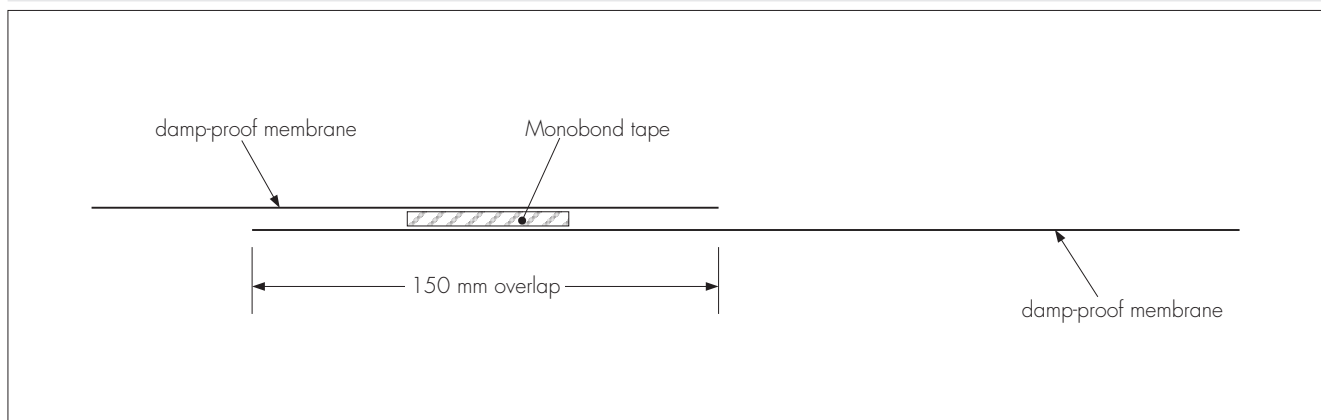
10.4 The products can be installed in all conditions normal to ground-floor slab construction. Where there is a risk of ground becoming waterlogged, sub-soil drainage must be provided in accordance with CP 102 : 1973.

10.5 The type of floor finish to be used may limit the suitability of polyethylene dpm's; the guidance given in CP 102 : 1973 should be followed.

11 Procedure

11.1 Adjacent sheets are overlapped by at least 150 mm and sealed with Monobond Double Sided Sealant Tape (see Figure 1).

Figure 1 Lap joints



11.2 The damp-proof membrane must be continuous and linked in with the damp-proof course in the surrounding walls. Where necessary the product should be used as a vertical damp-proof course to link the two. The dpm and dpc joint must be overlapped a minimum of 100 mm and sealed with an appropriate sealant tape, such as Monobond Double Sided Sealant Tape. Where there is doubt about the compatibility of materials, the advice of the Certificate holder should be sought.

11.3 The membranes must be covered with a screed or other protective layer as soon as possible after installation. Care should be taken to ensure that the membrane is not stretched or displaced and to avoid the creation of areas of unsupported membrane when placing the concrete or screed, for example at internal angles.

12 Repair

Perforations or punctures in the sheets must be patched with Monarflex Ultra sheets of identical thickness, lapped at least 150 mm beyond the limits of the puncture and sealed with Monobond Double Sided Sealant Tape.

13 Tests

Tests were carried out on Monarflex Ultra 250 and 300 Damp-proof Membranes and the results assessed to determine:

- water vapour resistance
- resistance to impact
- tensile characteristics
- low temperature flexibility
- dimensional stability
- strength and effectiveness of joints
- effect of heat and UV ageing on tensile properties.

14 Investigations

The methods of quality control were evaluated and details were obtained of the quality and composition of the materials used.

Bibliography

BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

CP 102 : 1973 *Code of practice for protection of buildings against water from the ground*

15 Conditions

15.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page — no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- 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.

15.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

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

15.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

15.5 In issuing this Certificate, the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- 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 their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal.

15.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal 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, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue 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.