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Agrément Certificate
98/3479
Product Sheet 2

IKO HYLOAD TANKING MEMBRANES

HYLOAD 2000SA

This Agrément Certificate Product Sheet⁽¹⁾ relates to Hyload 2000SA, polymer modified bitumen damp-proof and waterproofing membrane for use on solid concrete floors and underground structures, in sandwiched and externally applied specifications.

(1) Hereinafter referred to as 'Certificate'.

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 product will resist the passage of moisture to the interior of the building (see section 6).

Resistance to mechanical damage — the product will accept, without damage, the limited foot traffic and loads associated with installation and maintenance (see section 7).

Adhesion — the adhesion of the product to the substrate and to itself is satisfactory (see section 8).

Durability — under normal service conditions, the product will provide an effective barrier to the transmission of liquid water and water vapour for the life of the structure in which it is incorporated (see section 11).

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

On behalf of the British Board of Agrément

Claire Curtis-Thomas

Date of Fifth issue: 12 February 2019

John Albon — Head of Approvals

Claire Curtis-Thomas

Originally certificated on 22 September 1998

Construction Products

Chief Executive

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.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

British Board of Agrément

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Regulations

In the opinion of the BBA, Hyload 2000SA, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	C2(a)	Resistance to moisture
Comment:		The product, including joints, can contribute to a structure satisfying this Requirement. See section 6 of this Certificate.
Regulation:	7	Materials and workmanship (applicable to Wales only)
Regulation:	7(1)	Materials and workmanship (applicable to England only)
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)	Durability, workmanship and fitness of materials
Comment:		The use of the product can satisfy the requirements of this Regulation. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to construction
Standard:	3.4	Moisture from the ground
Comment:		The product, including joints, will enable a structure to satisfy the requirements of this Standard, with reference to clauses 3.4.2 ⁽¹⁾⁽²⁾ and 3.4.5 ⁽¹⁾⁽²⁾ to 3.4.7 ⁽¹⁾⁽²⁾ . See section 6 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The product can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	12	Building standards applicable to conversions
Comment:		All comments given for the product 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) 2012 (as amended)

Regulation:	23(a)(i)(iii)(b)(i)	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 11 and the <i>Installation</i> part of this Certificate.
Regulation:	28(a)	Resistance to moisture and weather
Comment:		The product, including joints, can contribute to a structure satisfying the requirements of this Regulation. See section 6 of this Certificate.

Construction (Design and Management) Regulations 2015

Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See section: 1 Description (1.2) and 3 *Delivery and site handling* (3.3) of this Certificate.

Additional Information

NHBC Standards 2019

In the opinion of the BBA, Hyload 2000SA, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 5.1 *Substructure and ground bearing floors* and 5.4 *Waterproofing of basements and other below ground structures*.

Where Grade 2 or 3 waterproofing protection is required and the below-ground wall retains more than 600 mm measured from the top of the retained ground to the lowest finished floor level, the product should be used in combination with either Type B or C waterproofing protection. Where Grade 2 waterproofing is required to walls retaining ground greater than 600 mm, Type A products that are not fully bonded should only be used in combination with either Type B or C waterproofing protection.

CE marking

The Certificate holder has taken the responsibility of CE marking the products, in accordance with harmonised European Standard BS EN 13967 : 2012. An asterisk (*) appearing in this Certificate indicates that data shown are given in the manufacturer's Declaration of Performance.

Technical Specification

1 Description

1.1 Hyload 2000SA is a two-ply self-adhesive membrane, comprising a top layer of high-performance, high-density polyethylene (HDPE) bonded to a layer of polymer-modified bitumen adhesive carried on a release liner, with a selvage strip.

1.2 The nominal characteristics for the membrane are given in Table 1.

Characteristics (units)	Hyload 2000SA
Thickness(mm)	1.5
Width* (m)	1.05
Roll length* (m)	15
Roll weight* (kg)	34.0
Mass per unit area* (kg·m ⁻²)	1.7

1.3 The nominal physical characteristics of the membrane are given in Table 2.

Characteristic (unit)	2000SA
Tensile strength* (N per 50 mm)	
longitudinal	215
transverse	220
Elongation at break* (%)	
longitudinal	130
transverse	130
Watertightness*	Pass

1.4 Ancillary items available for use with the membrane are:

- IKOpro SA Bitumen Primer — a cold-applied bituminous primer consisting of a blend of bitumens, solvents and additives for preparing substrates prior to application
- Hyload Protection Board — a flexible polymeric board for protecting the tanking membrane against mechanical damage, pedestrian or vehicular traffic and damage caused by backfilling.
- Hyload Preformed Shapes — a range of preformed angles and corners for detailing.

2 Manufacture

2.1 The membrane is manufactured using traditional methods of manufacture for polymer-modified bitumen membranes.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of the Certificate holder has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2015 by BSI (Certificate Q 09303).

3 Delivery and site handling

3.1 Rolls are packed in cardboard boxes. The packaging bears the Certificate holder's name, product name, batch number and the BBA logo incorporating the number of this Certificate.

3.2 The rolls must be stored in dry conditions under cover and upright in the original cardboard boxes. When stored as described in this Certificate, the membrane will have a shelf-life of 12 months.

3.3 The Certificate holder has taken the responsibility of classifying and labelling the product under the *CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures*. Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Hyload 2000SA.

Design Considerations

4 Use

4.1 Hyload 2000SA is satisfactory for use as Type A waterproofing and damp-proofing protection, as defined in BS 8102 : 2009 and CP 102 : 1973 for the waterproofing of new or existing structures respectively.

4.2 The product can be used sandwiched and externally on concrete, smooth brickwork, blockwork and screeded substrates to provide an effective barrier to the transmission of liquid water where Grade 1 to 3 waterproofing protection is required, as defined in Table 2 of BS 8102 : 2009.

4.3 Where Grade 3 waterproofing protection is required, the environment must also be controlled by use of ventilation, dehumidification and/or air conditioning (as appropriate) to ensure that dampness does not occur. See also the *Additional Information* part of this Certificate relating to the *NHBC Standards*.

4.4 The membrane is satisfactory to use under concrete screeds, floor slabs and underground structures and should be protected according to section 12.5. The product is resistant to chemicals likely to be present in normal service conditions.

5 Practicability of installation

The membrane is designed to be installed by competent contractors, experienced with this type of product.

6 Resistance to water and water vapour



The membrane, including joints, when completely sealed and consolidated, will adequately resist the passage of moisture from the ground into the structure and enable a structure to comply with the requirements of national Building Regulations.

7 Resistance to mechanical damage

7.1 Hyload 2000SA can be punctured by sharp objects, and care should therefore be taken in handling building materials and equipment over the exposed surface.

7.2 Provided there are no sharp objects present on the membrane surface prior to and during installation of the protective layer, the product will not be damaged by normal foot traffic. If damage occurs, repairs can be carried out by patching prior to application of the protection (see section 15).

8 Adhesion

That the adhesion of the membrane to the substrate and to itself, jointed as described in this Certificate, is satisfactory. The membrane can accommodate minor movements likely to occur under normal service conditions in the structure in which it is incorporated.

9 Effects of temperature

9.1 At low temperatures, the product will become progressively stiffer, which may make it difficult to handle. However, the product will not crack at the minimum recommended laying temperature when folded around a 20 mm diameter mandrel.

9.2 At elevated temperatures, the adhesive will soften which under extreme conditions may cause slippage. There may also be the risk of curling of the laps caused by the cross-orientation of the polyethylene sheet. However, when used in accordance with the Installation part of this Certificate (ie the membrane is protected as soon as possible after installation), the sheet will be restrained and will not achieve the temperatures at which these effects occur.

10 Maintenance

As the membrane is protected by a wall, backfill or screed and has suitable durability (see section 11), maintenance is not required. However, any damage occurring prior to installation of the protection must be repaired (see section 15).

11 Durability



The membrane, when fully protected and subjected to normal service conditions, will provide an effective barrier to the transmission of liquid water and water vapour for the life of the structure in which it is incorporated.

12 General

12.1 Hyload 2000SA must be installed in accordance with the relevant requirement of CP 102 : 1973 Section 2 or BS 8102 : 2009, and the Certificate holder's instructions. Additional guidance on the use of damp-proof membrane materials is available in BS 8000-4 : 1989.

12.2 All surfaces to which the product is to be applied should have a smooth finish, ie they should be free from cavities, projections and mortar deposits. Surfaces must be dry and free from dust and frost. Surfaces are primed with IKOpro SA Bitumen Primer, at the recommended coverage rate, and allowed to dry. Vertical surfaces must always be primed.

12.3 Vertical surfaces of brickwork and blockwork must be dry and, preferably, rendered to provide an even surface. Brickwork or blockwork not rendered must be flush pointed to give a smooth surface without sudden changes in level.

12.4 The membrane can be installed in all normal site conditions provided the air temperature is not below 5°C, to prevent the risk of surface condensation.

12.5 The membrane must be covered by a screed or other protective layer as soon as possible after installation. If blockwork protection is used, care must be taken to avoid damage to the membrane during construction.

12.6 A 330 mm strip of Hyload 2000SA is placed at all angles/changes of direction (such as the junction of horizontal and vertical surfaces and corners), and at the top where the membrane meets the damp-proof course (dpc). Suitable fillets and splays must be used.

13 Procedure

13.1 The release liner is removed prior to applying the membrane to the prepared substrate. In all cases, as the sheet is laid the membrane must be pressed firmly from the middle to prevent trapping air.

13.2 The polyethylene strip on the selvages must be removed to expose the bitumen/polymer adhesive to facilitate lapping of the membrane.

13.3 Overlaps should be at least 50 mm onto the backing film along the roll edges and at least 100 mm onto the backing film at the roll ends of the membrane and all other areas of detailing. The membrane surface to be overlapped should be dust-free and, to ensure a watertight bond, the upper membrane should be firmly pressed down onto the lower one.

14 Applications

Solid concrete floors

14.1 It is essential that the damp-proof membrane in the floor is continuous with the dpc in the surrounding walls, ie the membrane must continue up the internal wall surface and be joined to the dpc. A sand/cement screed is laid immediately after the installation to prevent damage.

External tanking

14.2 When the foundation block extends beyond the concrete structure, the membrane is applied to the horizontal surface, extended up the outer face of the wall and cut into it.

14.3 A protection wall of brickwork, blockwork or protection board must be used against the membrane, to protect it from puncture during backfilling, or subsequently by the backfill.

Sandwiched tanking

14.4 The membrane is applied to the site concrete base as well as to the interior face of the external wall. It is tucked into the damp-proof course and applied down the wall and 300 mm onto the site concrete base.

14.5 The membrane is applied to the walls to achieve the overlaps defined in section 13.3. A wall (preferably concrete) is applied immediately after installation to protect the tanking membrane and to resist the action of external water pressure. Where brickwork or blockwork is used, it should be set 40 mm away from the membrane, to enable the space so formed to be thoroughly filled with a sand/cement mortar.

15 Repair

Should damage to the product occur during installation it can be adequately repaired by patching prior to the application of protection or backfilling in accordance with the Certificate holder's instructions.

Technical Investigations

16 Tests

An assessment was made of data in relation to:

Tests on the membranes

- thickness

- width
- length
- mass per unit area
- tensile strength
- elongation at break
- dimensional stability
- flexibility at low temperature
- water vapour resistance
- resistance to cracking at 0 and 20°C
- chisel impact
- steel ball impact
- peel strength
- heat aged for 28 days at 60°C followed by peel strength
- heat aged for 56 days at 60°C followed by tensile strength and elongation at break
- static indentation
- ring and ball temperature
- unrolling at low temperature

Tests on joints

- shear resistance of joints
- resistance to water pressure of joints
- heat aged for 28 days at 60°C followed by shear resistance of joints
- water exposure for 7 days at 60°C followed by shear resistance of joints.

17 Investigations

17.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

17.2 A re-assessment was made of the data and user surveys to specifiers and contractors were conducted to investigate the performance of the product in service.

Bibliography

BS 8102 : 2009 *Code of practice for protection of below ground structures against water from the ground*

BS EN 13967 : 2012 + A1 : 2017 *Flexible sheets for waterproofing — Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet — Definitions and characteristics*

BS EN ISO 9001 : 2015 *Quality management systems — Requirements*

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

18 Conditions

18.1 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.

18.2 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.

18.3 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.

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

18.5 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
- actual 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
- any claims by the manufacturer relating to CE marking.

18.6 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.