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BBA BRITISH BOARD OF AGRÉMENT
TECHNICAL APPROVALS FOR CONSTRUCTION

Designated by Government to issue European Technical Approvals

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Agrément Certificate No 00/3733
*Second issue**

OLDROYD Xv AND Xs

Soutien étanche
Wasserdichte Stütze

Product

- *THIS CERTIFICATE OF CONFIRMATION RELATES TO OLDROYD Xv AND Xs, COMPRISING MOULDED POLYPROPYLENE MEMBRANES.*
- *The membranes are used in new construction or in existing buildings over a contaminated or damp background, to support a dry lining and flooring.*
- *The products should be installed by competent remedial damp-proofing contractors.*

Confirmation of Norwegian Agrément Nos 2136 and 2206 issued by the Norges Byggforskningsinstitutt (NBI).

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 waterproofing-tanking (walls) with the Building Regulations. In the opinion of the BBA, the use of Oldroyd Xv and Xs in new constructions, if used in accordance with the provisions of this Certificate, will meet the relevant requirements. In the opinion of the BBA, the use of Oldroyd Xv and Xs in an existing building is not subject to these Regulations, but action to satisfy Requirement C4 and Regulation 7 may be necessary for a 'Material change of use' as defined in Regulation 5(a).

Requirement:	C4	Resistance to weather and ground moisture
Comment:		The products adequately resist the passage of moisture. See section 10.1 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The products are acceptable. See section 14.1 of this Certificate.

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

In the opinion of the BBA, the use of Oldroyd Xv and Xs in new constructions, if used in accordance with the provisions of the Certificate, will satisfy or contribute to satisfying the various Regulations and Technical Standards as listed below. In the opinion of the BBA, the use of Oldroyd Xv and Xs in an existing building is not controlled by these Regulations, but action to satisfy Regulations 10 and 17 may be necessary for a 'Change of use of building' as defined in Section 6 of the Building (Scotland) Act 1959. See definition of a 'building' in Regulation 2 of these Regulations.

Regulation:	**10**	Fitness of materials and workmanship
Standard:	B2.1	Selection and use of materials, fittings, and components, and workmanship
Comment:		The products can contribute to a construction meeting this Standard. See the *Installation* part of this Certificate.
Standard:	B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The products are acceptable. See section 14.1 of this Certificate.
Regulation:	**17**	Resistance to moisture
Standard:	G2.6	Preparation of a site and resistance to moisture from the ground — Resistance to moisture from the ground
Standard:	G3.1	Resistance to precipitation — Resistance to precipitation
Comment:		The products adequately resist the passage of moisture. See section 10.1 of this Certificate.

3 The Building Regulations (Northern Ireland) 2000

In the opinion of the BBA, the use of Oldroyd Xv and Xs in new constructions, if used in accordance with the provisions of this Certificate, will satisfy the various Building Regulations as listed below. In the opinion of the BBA, the use of Oldroyd Xv and Xs in an existing building is not controlled by these Regulations, but action to satisfy Regulations B2 and C5 may be necessary for a 'Material change of use' under Regulation A9.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 14.1 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		The products adequately resist the passage of moisture. See section 10.1 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* (5.2).

Technical Specification

5 Description

5.1 Oldroyd Xv and Xs are moulded polypropylene membranes, incorporating a relief pattern of intersecting channels (see Figure 1). Xv also has moulded raised domes incorporated at 28 mm centres.

5.2 The characteristics of the membranes are given in Table 1.

Table 1 Typical characteristics

	Membrane	
	Xv	Xs
Thickness (mm)	0.5	0.5
Weight per unit area (kgm^{-2})	0.5	0.5
Height (mm)	7.0	2.0
Width (m)	1.28, 2.08	1.28, 2.08
Roll length (m)	20	20
Weight per roll (kg)	12.8, 20.8	12.8, 20.8

5.3 Ancillary items used with the products are:

- Oldroyd Jointing Tape — 30 mm wide and 1.0 mm thick butyl tape for the jointing of laps and detailing at corners
- Oldroyd Jointing Rope — 10 mm diameter extruded butyl sealant for sealing the membrane to concrete floors, and for detailing
- Oldroyd Pipe Collars — 12 mm to 110 mm diameter, used in conjunction with Oldroyd Jointing Tape and Rope to seal pipes protruding from the membrane
- Oldroyd Plugs — plastic plugs for fixing the membrane to walls and vaulted ceilings. Wooden studding is subsequently screwed into these plugs eliminating the need to make further holes in the membrane.

6 Manufacture and quality control

6.1 The membranes are formed in a continuous process in which polypropylene is extruded into sheets and vacuum formed to produce both the Xv and Xs membranes.

6.2 The final product is visually inspected, and tested for:

- thickness
- length and width of roll
- straightness.

6.3 Under the terms of NBI Technical Approvals 2136 and 2206, the products are subject to routine factory surveillance by the Swedish National Testing and Research Institute.

7 Delivery and site handling

7.1 Individual rolls are packaged in polythene wrapping, palletised and stretch-film wrapped. The product is labelled with the product name, manufacturer's name, and the BBA identification mark incorporating the number of this Certificate.

7.2 Rolls should be stored on end, under cover and protected from sharp objects, sunlight and high temperatures.

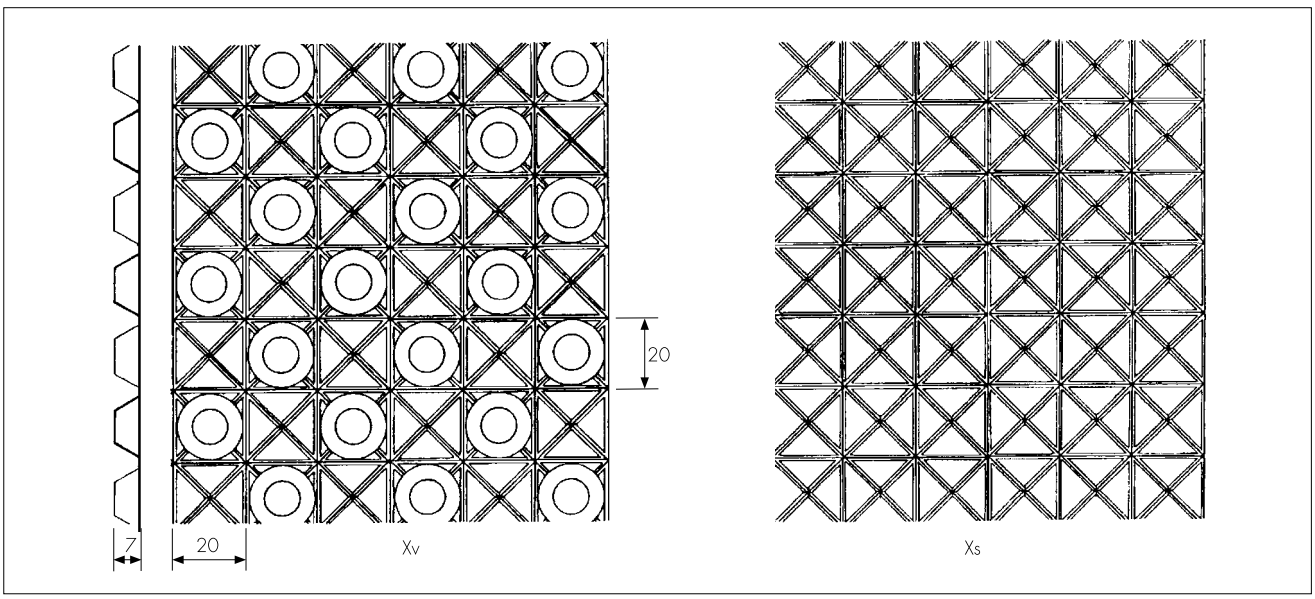
Design Data

8 General

8.1 Oldroyd Xv is satisfactory as a support for a dry lining, screed or flooring, over internal faces of vaulted ceiling, walls and floors of all types of existing construction, in the following situations:

- damp walls and floors in underground situations subject to high groundwater levels, and perennial moisture
- on vaulted ceilings of archways or cellars subject to dripping water

Figure 1 Oldroyd Xv and Xs (dimensions in mm)



- with a remedial dpc system where the walls and floors have a high salt content, and/or it is necessary to complete the installation immediately without allowing a period for initial drying
- over walls and floors which have a friable or painted surface, are contaminated with oil or mould, or have a high salt content
- as a waterproofing or 'tanking' in areas subject to vibration.

8.2 The Xv system is satisfactory for use in Type C (drained protection) structural concrete constructions in accordance with BS 8102 : 1990, clause 3.2.4.

8.3 The Xs system is satisfactory for use as a damp-proof membrane over floors not subject to a hydrostatic pressure, in accordance with the relevant clauses of CP 102 : 1973.

8.4 Under normal operating conditions the membranes are not affected by underfloor heating.

9 Finishing works

After the membrane has been installed and the walls dry-lined, permanent decorations, such as vinyl papers or oil paints, may be applied. Temporary permeable decorations (necessary with traditional, cement-based waterproofers) are not required with this system.

10 Resistance to water and water vapour

10.1 The membrane is water resistant and has a high resistance to water vapour. Consequently the measures described in the *Installation* part of this Certificate must be followed to ensure that the membrane acts as a drainage layer and that there is no excessive build-up of water behind the system.

10.2 All joints and fixings must be sealed with Oldroyd sealing products (see section 5.3). Drainage channels and gullies, or sumps and pumps should be installed as necessary to disperse excess or standing water.

10.3 Floors should have a drainage outlet point. There should be a fall towards the outlet point or a drainage channel made around the circumference of the floor, to allow water to flow to the outlet.

11 Resistance to salt transfer

The products provide an effective barrier to the transmission of salts or other contaminants from the substrate.

12 Resistance to puncture and loading

12.1 The membranes have a high resistance to puncture and will not be damaged by normal foot traffic during installation or while laying concrete or screeding to BS 8204-1 : 2003.

12.2 The products can support the long-term imposed loadings defined in BS 6399-1 : 1996, Table 1, categories A, C1, C2 and situations with similar loadings in category B, without undue deformation.

13 Wall-mounted fittings

Wall-mounted fittings (apart from lightweight items such as framed pictures) should be fixed where possible into battens, whose position and number of support fixings into the loadbearing structure are predetermined. Only in exceptional circumstances should fittings be fixed through the membrane and lining board to the loadbearing structure behind, using proprietary fixings. Holes made in the membrane must be sealed using Oldroyd Jointing Tape and Rope.

14 Durability

14.1 Under normal conditions of use the system will provide an effective barrier to the transmission of salts, liquid water and water vapour for the life of the structure in which it is incorporated.

14.2 Regular maintenance of all gullies, sumps and pumps must be conducted to ensure that a build-up of water does not occur behind the membrane.

Installation

15 Survey in damp conditions

15.1 Where conditions are damp, a full survey by a specialist surveyor is made to diagnose the cause and establish if treatment is necessary.

15.2 Appropriate remedial measures are taken to rectify major causes of damp conditions, or water ingress, and to repair structural defects.

16 Surface preparation

16.1 When using the membrane in new constructions the concrete base must be laid in accordance with BS 8204-1 : 2003. If a board covering is to be laid directly on the membrane, the concrete base must have a surface regularity of at least SR 2[1], as described in BS 8204-1 : 2003.

(1) Maximum permissible departure of 5 mm from the underside of a 2 m straight edge, resting in contact with the floor.

16.2 When used in existing buildings any unsound plaster, render or screed is removed to expose the substrate and cleaned with a stiff brush to remove loose material, laitance, salt residue, mould or adhesive. If mould is present the substrate is treated with a fungicidal wash.

16.3 Uneven substrate should be dubbed out with a cement-sand (1:4) render or screed, to the tolerance described in section 16.1. It should be allowed to dry thoroughly before the membrane is fixed.

17 Walls and ceilings

General

17.1 Xv should always be used with the flanged edge positioned in front of, and overlapping, the previously installed membrane width. Joints with the flanged edge are sealed using Oldroyd Jointing Tape, stud-to-stud joints (without the flanged edge) are sealed by overlapping the membrane by 100 mm to 150 mm and positioning Oldroyd Jointing Rope between the last two rows of domes.

17.2 Fixings are made through the domes into holes drilled through the membrane. Oldroyd Plugs are inserted into the holes and tapped flush with the membrane.

17.3 Spacings between fixings will depend on the application and the nature of the substrate, but should be kept to a maximum of 600 mm. Each fixing is sealed with Oldroyd Jointing Rope.

17.4 Preservative-treated timber battens of minimum dimensions 19 mm by 38 mm are fixed into the plug's fixing hole using No 12 screws.

17.5 On difficult substrates the use of the clear membrane will allow the contractor to view the substrate through the membrane and choose the optimum site for each fixing.

Ceiling

17.6 Ceilings to be covered should always have a fall, as per vaulted cellar constructions, to prevent water ponding against the membrane or a joint. In addition to the requirements given in section 17.9, on ceilings the vertical drop between the ends of the two membrane sheets for horizontal overlaps should be a minimum of 100 mm.

17.7 Any sagging of the membrane between fixing points on ceilings should not be great enough for ponding to occur.

17.8 At the end walls of vaulted constructions the membrane must be turned down into the end wall by a minimum 200 mm. The membrane is mitred as necessary to fit the curve of the ceiling, and the joint sealed with Oldroyd Jointing Tape or Rope. The wall membrane should be cut into the curve of the ceiling, fixed in front of the ceiling membrane, and the gap sealed with Oldroyd Jointing Rope.

Walls

17.9 Installation of the membrane commences at the top of the construction, preferably vertically fixed. The membrane may require initial fixing on a ceiling or along the upper edge of a wall, prior to final fixings along batten runs. For joints where the flanged edge is not used, the two membrane sheets are overlapped by a minimum of 200 mm, and for horizontal joints the lower sheet is always positioned in front of the upper sheet.

17.10 The installation is conducted over windows and later the membrane is cut away to expose them, and the gaps are sealed with Oldroyd Jointing Tape or Rope.

17.11 For doors and some obstructions the techniques described in 17.10 cannot be used. Instead the membrane is installed up to the perimeter and the gap sealed using Oldroyd Jointing Tape or Rope. Power cables, points and light switches should be preferably remounted in front of the membrane.

18 Floors

18.1 Both membranes can be used to damp-proof floors. The membranes should be laid such that the side with the criss-cross pattern of vapour channels (ie, 'domes down' for Xv) is against the substrate.

18.2 The membrane is rolled out over the floor, and consecutive membrane widths are laid so the flanged edge overlaps the first sheet by three domes. For Xv, the flanged joints should be sealed using Oldroyd Jointing Tape, but where the domes interlock the joints should be sealed with Oldroyd Jointing Rope. For Xs, all joints should be sealed using Oldroyd Jointing Tape.

18.3 The membrane is cut within 5 mm to 10 mm of any pipes and services in the floor, and the gap filled with Oldroyd Jointing Rope. Where relevant an Oldroyd Pipe Collar should be fitted and sealed using Oldroyd Jointing Tape, otherwise a patch of membrane is overlaid and sealed to the service with Oldroyd Jointing Rope, and its circumference sealed with Oldroyd Jointing Tape.

18.4 Fixing must not be applied through the floor membrane.

18.5 Where appropriate at wall/floor junctions and corners of the installation, the membrane should be cut flush and the gap between the wall and floor membranes sealed with runs of Oldroyd Jointing Tape.

18.6 Alternatively, the floor membrane may be turned up by 100 mm at the wall. At corners a cut is made and the membrane folded and sealed with Oldroyd Jointing Tape or Rope. The overlap between the wall and floor membranes is sealed with either a run of Oldroyd Jointing Rope (for joints without flanged edges) or a single run of Oldroyd Jointing Tape (for flanged joints).

19 Dry lining of walls

Gypsum plasterboard to BS 1230-1 : 1985, or similar dry lining boards covered by a current Agrément Certificate, are fixed to the battens with galvanized screws or nails, positioned a minimum of 12 mm from the edge of the board. Care should be taken to ensure that penetration of the plasterboard screws or nails is less than batten depth to avoid puncturing the membrane.

20 Floor membrane coverings

20.1 If required, expanded polystyrene insulation boards, minimum density 30 kgm^{-3}, are laid over the membrane.

20.2 Suitable tongue-and-groove flooring board panels, should be selected in accordance with DD ENV 12872 : 2000, and loose-laid over the membrane to within 10 mm of the walls. The panels are staggered and the joints sealed with PVA adhesive to BS 4071 : 1966.

20.3 Alternatively, the membrane is covered by concrete or screed 50 mm thick in accordance with BS 8204-1 : 2003. Care should be taken to ensure the membrane is not displaced when placing the concrete or screed.

Technical Investigations

The following is a summary of the technical investigations carried out on Oldroyd Xv and Xs.

21 Tests

Tests were carried out to the BBA's test specifications to determine:

- low temperature flexibility
- puncture resistance under static load
- nail tear resistance
- resistance to long-term loading.

22 Investigations

22.1 An assessment was made of the scope of use and durability of the system in relation to the generic properties of the membrane.

22.2 An assessment was made of the data contained in NBI Technical Approval Nos 2136 and 2206 in relation to the national Building Regulations.

Bibliography

BS 1230-1 : 1985 *Gypsum plasterboard — Specification for plasterboard excluding materials submitted to secondary operations*

BS 4071 : 1966 *Specification for polyvinyl acetate (PVA) emulsion adhesives for wood*

BS 6399-1 : 1996 *Loading for buildings — Code of practice for dead and imposed loads*

BS 8102 : 1990 *Code of practice for protection of structures against water from the ground*

BS 8204-1 : 2003 *Screeds, bases and in-situ floorings — Concrete bases and cement sand levelling screeds to receive floorings — Code of practice*

DD ENV 12872 : 2000 *Wood-based panels — Guidance on the use of load-bearing boards in floors, walls and roofs*

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

Conditions of Certification

23 Conditions

23.1 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) is valid only within the UK;

(d) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;

(e) is copyright of the BBA;

(f) is subject to English law.

23.2 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, are references to such publication in the form in which it was current at the date of this Certificate.

23.3 This Certificate will remain valid for an unlimited period provided that the product and the manufacture and/or fabrication including all related and relevant processes 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 Norwegian Agrément; and

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

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

(a) the presence or absence of any patent, intellectual property 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 actual works in which the product is installed, used and maintained, including the nature, design, methods and workmanship of such works.

23.5 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.

BBA BRITISH BOARD OF AGRÉMENT
TECHNICAL APPROVALS FOR CONSTRUCTION

In the opinion of the British Board of Agrément, the Oldroyd Xv and Xs are fit for their intended use provided they are installed, used and maintained as set out in this Certificate. Certificate No 00/3733 is accordingly awarded to Oldroyd AS.

On behalf of the British Board of Agrément

Date of Second issue: 29th October 2004

Chief Executive

**Original Certificate issued on 13th July 2000. This amended version issued to include a change of product name, revisions to national Building Regulations and CDM Regulations, a re-styled and updated* Bibliography *and new* Conditions of Certification.

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