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BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

Agrément Certificate
00/3733
Product Sheet 1

OLDROYD MEMBRANE SYSTEMS

OLDROYD Xv

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate of Confirmation relates to Oldroyd Xv, a moulded polypropylene sheet incorporating raised studs, for damp-proofing walls, floors and vaulted ceilings in new construction or in existing buildings over a contaminated or damp background, and to support a dry lining or flooring.

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 product is water resistant and has a high resistance to water vapour transmission (see section 5).

Resistance to salt transfer — the product provides an effective barrier to the transmission of salts or other contaminants from the substrate (see section 6).

Resistance to puncture and loading — the membrane has a high resistance to puncture and will not normally be damaged by normal foot traffic during installation or while laying concrete or screeding. It can support the long-term loadings likely to be experienced in service without undue deformation (see section 7).

Durability — under normal conditions of use the product 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 (see section 10).

The BBA has awarded this Agrément 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

Date of First issue: 20 July 2009
Originally certificated on 13 July 2000

Simon Wroe
Head of Approvals — Materials

Greg Cooper
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

Regulations

In the opinion of the BBA, Oldroyd Xv 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 2000 (as amended) (England and Wales)

For new construction and a 'Material Change of Use' of an existing buildings, as defined in Regulation 5a.

Requirement:	C2(a)(b)	Resistance to moisture
Comment:		The product adequately resists the passage of moisture. See section 5.1 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 10 and the *Installation* part of this Certificate.

The Building (Scotland) Regulations 2004 (as amended)

For new construction and a 'Conversion' of an existing building, as defined in Regulation 4.

Regulation:	8(1)(2)	**Fitness and durability of materials and workmanship**
Comment:		The product can contribute to a construction satisfying this Regulation. See sections 9.1, 10 and the *Installation* part of this Certificate.
Regulation:	9	**Building standards — construction**
Standard:	3.3	Flooding and ground water
Comment:		The product can contribute to minimising or eliminating the effect of flooding on the building fabric and/or the building envelope, with reference to clause 3.3.1[1][2]. See section 5.1 of this Certificate.
Standard:	3.4	Moisture from the ground
Comment:		The product adequately resists the passage of moisture, with reference to clauses 3.4.1[1][2], 3.4.2[1][2], 3.4.5[1][2], 3.4.6[1][2] and 3.4.7[1][2]. See section 5.1 of this Certificate.
Standard:	3.6(a)	Surface water drainage
Comment:		The product can contribute to satisfying this Standard, with reference to clause 3.6.3[1][2]. See section 5.1 of this Certificate.
Standard:	3.10	Precipitation
Comment:		The product adequately resists the passage of moisture, with reference to clause 3.10.1[1][2]. See section 5.1 of this Certificate.
Regulation:	12	**Building standards — conversions**
Comment:		All comments given for this product 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).

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

For new construction and a 'Material Change of Use' of an existing building, as defined in Regulation A9.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 10 and the *Installation* part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The product does not normally require maintenance. See section 9.1 of this Certificate.
Regulation:	C4(a)(b)	Resistance to ground moisture and weather
Comment:		The product adequately resists the passage of moisture. See section 5.1 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).

Non-regulatory Information

NHBC Standards 2008

In the opinion of the BBA, the use of Oldroyd Xv, when installed and used in accordance with this Certificate, is capable of satisfying the requirements of *NHBC Standards*, Chapters 5.1 *Substructure and ground bearing floors*, 5.2 *Suspended ground floors* and 6.1 *External masonry walls*.

In the opinion of the BBA, the use of Oldroyd Xv, when installed and used in accordance with this Certificate, is capable of satisfying the requirements of the *Zurich Building Guarantee Technical Manual*, Section 3 *Substructure*, Sub-sections *Basements and Floors* and Section 4 *Superstructure*, Sub-section *External walls, render/curtain walling/ cladding* and Section 6 *Additional guidance for conversions, Sub-sections Tanking — Basement space, Damp-proofing and Floors*.

General

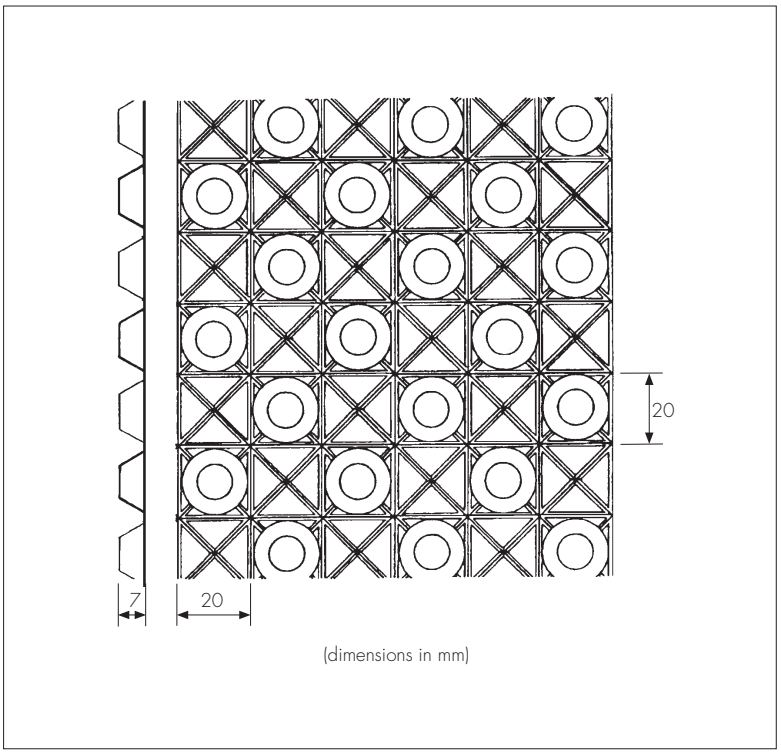
This Certificate is a Confirmation of Norwegian SINTEF Technical Approval No 2136 issued by SINTEF Building and Infrastructure to Oldroyd AS.

Technical Specification

1 Description

1.1 Oldroyd Xv is a polypropylene sheet incorporating a relief pattern of intersecting channels, moulded to form raised studs, see Figure 1.

Figure 1 Oldroyd Xv



1.2 The membrane characteristics are:

Roll width and length (m)	1.28 x 20, 2.08 x 20
Weight of roll (kg)	12.8, 20.82
Thickness (mm)	0.5
Weight (kgm^{-2})	0.53
Height (mm)	7.0
Stud height (mm)	6.0
Width of flange (mm)	62
Air gap volume (lm^{-2})	5.0

1.3 Ancillary items used with the product are:

- Oldroyd Jointing Tape — 30 mm wide and 1 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 Overseal Tape – 75 mm, 150 mm or 200 mm wide and 1 mm thick butyl tape for the oversealing of laps and details
- 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 Brick Plugs — plastic plugs for fixing the membrane to walls and vaulted ceilings. Wooden stud work or a proprietary aluminium framing system is screwed into these plugs, eliminating the need to make further holes in the membrane.

Manufacture

1.4 The membrane is formed in a continuous process in which polypropylene is extruded into sheets and vacuum formed to produce the studs and intersecting channels.

1.5 Quality control is exercised over raw materials, during manufacture and on the final product.

2 Delivery and site handling

2.1 The membrane is delivered to site in rolls 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.

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

Assessment and Technical Investigations

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

Design Considerations

3 Use

3.1 Oldroyd Xv is satisfactory for use as a damp-proofing membrane and 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:

- on damp walls in underground situations subject to high groundwater levels, and perennial moisture
- on vaulted ceilings of archways or cellars subject to dripping water
- in conjunction 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 (eg with oil or mould) or have a high salt content
- as a waterproofing above or below ground in areas subject to vibration.

3.2 Depending on the application required and the site conditions, the membrane may be used as:

- an underfloor damp-proof membrane
- a dry lining for walls, ventilated into the room via aeration slots at the top and bottom of the wall or via passive air vents, where access through an outer wall is available
- a completely sealed system covering the floor, wall and ceiling with provision made for the disposal of water build-up behind the membrane via a sump and pump.

3.3 The product has not been assessed for use in chemically contaminated areas, such as brownfield sites. The product consists of a 0.5 mm thick polypropylene membrane and, in the opinion of the BBA, meets the criteria for a radon barrier according to BRE Report (BR 211 : 1999) *Radon : guidance on protective measures for new dwellings*. However, the effectiveness of the joint sealing system against radon has not been assessed.

3.4 The system is satisfactory for use in Type C (drained protection) constructions in accordance with BS 8102 : 1990, Clause 3.2.4.

3.5 Under normal operating conditions the membrane is not affected by underfloor heating.

4 Practicability of installation

The product is designed to be installed by competent, remedial damp-proofing contractors.

5 Resistance to water and water vapour

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

5.2 All joints and fixings must be sealed with Oldroyd sealing products, and drainage channels and gullies, and sumps and pumps should be installed as necessary to disperse excess or standing water.

5.3 Floors must 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.

5.4 Where insulation is laid over the membrane, a vapour control layer should be used unless a condensation assessment in accordance with BS 5250 : 2002 shows this not to be necessary. Due to the high vapour resistance of the membrane, it is essential to ensure that the vapour control layer is continuous and that joints are carefully and fully sealed.

5.5 Care should be taken to ensure that adequate room ventilation is provided to limit the risk of interstitial and surface condensation.

6 Resistance to salt transfer

The membrane provides an effective barrier to the transmission of salts or other contaminants from the substrate.

7 Resistance to puncture and loading

7.1 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.

7.2 The membrane 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.

8 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.

9 Maintenance

9.1 As the product is confined within the wall and has suitable durability (see section 10), maintenance is not required.

9.2 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.

10 Durability

Under normal conditions of use, the product 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.

Installation

11 Survey in damp conditions

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

11.2 If rising damp is found, a remedial treatment is conducted in accordance with the relevant Agrément Certificate, BS 6576 : 2005 and the Property Care Association Code of Practice, 2006.

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

12 Surface preparation

12.1 When used in new constructions the concrete base must be laid in accordance with BS 8204-1 : 2003.

12.2 If a board covering is to be laid directly on the membrane, the concrete base must have a surface regularity with a maximum permissible departure of 5 mm from the underside of a 2 m straight edge, resting in contact with the floor, in accordance with BS 8204-1 : 2003.

12.3 When used in existing buildings, any unsound plaster, render or screed is removed to expose the substrate which is then cleaned with a stiff brush to remove loose material, laitance, salt residue, organic material or adhesive. If mould is present the substrate is treated with a fungicidal wash in accordance with the Certificate holder's instructions.

12.4 Uneven substrates can be dubbed out with a cement-sand (1:4) or cement-lime-sand (1:1:6) render, to achieve a flat finish, and allowed to cure before the membrane is fixed.

13 Membrane fixing

General

13.1 The membrane is placed against the wall either vertically, or horizontally, so the studs are in contact with it (ie with an air gap between the membrane and the wall).

13.2 The membrane 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, while stud-to-stud joints (without the flanged edge) are sealed by overlapping the membrane by 100 mm to 150 mm and positioning Oldroyd Overseal Tape over, or Oldroyd Jointing Rope between, the last two rows of studs.

13.3 Fixings are made through studs into holes drilled through the membrane and into the substrate using a 10 mm diameter drill bit to a depth of at least 75 mm. Oldroyd Brick Plugs, to which Oldroyd Jointing Rope has been applied around the rim, are inserted into the holes and carefully hammered flush with the membrane. Oldroyd Jointing Rope forms a sealing gasket between the plug and membrane.

13.4 Spacing between fixings will depend on the application and the nature of the substrate, but should be kept to a maximum of 600 mm horizontally and 800 mm vertically.

13.5 On difficult substrates the clear membrane allows the contractor to view the substrate through the membrane and choose the optimum site for each fixing.

13.6 Preservative-treated timber battens of minimum dimensions 19 mm by 38 mm or a proprietary aluminium framing system are fixed into the plug's fixing hole using No 12 (5.5 mm diameter) screws with a maximum screwing-in depth of 25 mm.

Ceilings

13.7 Ceilings to be covered must always have a fall (as for vaulted cellar constructions) to ensure water does not lie against the membrane or a joint. Overlaps between membrane sheets should be a minimum of 150 mm

13.8 The membrane must be adequately fixed, to avoid the possibility of ponding.

13.9 At the end walls of vaulted constructions, the membrane must be turned down onto the end wall by a minimum of 300 mm. The membrane is mitred as necessary to fit the curve of the ceiling, and the joint sealed with Oldroyd Jointing Rope and/or Oldroyd Overseal Tape. The wall membrane should be cut to fit the curve of the ceiling, fixed in front of the ceiling membrane and the gap sealed with Oldroyd Jointing Rope and/or Oldroyd Overseal Tape.

Walls

13.10 Installation of the membrane commences at the top of the construction. 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.

13.11 The membrane is installed over windows and then cut away to expose them, details are available from the Certificate holder. For doors and other obstructions, the membrane is installed up to the perimeter. In both cases the gaps are sealed with Oldroyd Jointing Rope or Tape.

13.12 Power cables, points and light switches must be remounted in front of the membrane.

Floors

13.13 The membrane is rolled out 'studs down' over the floor, and consecutive membrane widths are laid so that the flanged edge overlaps the first sheet by three studs. All joints are sealed using Oldroyd Jointing Tape. Where a stud-to-stud joint occurs it is sealed using Oldroyd Jointing Rope.

13.14 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 appropriate 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.

13.15 Fixings must not be applied through the floor membrane.

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

13.17 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).

14 Dry lining

Gypsum plasterboard to BS EN 520 : 2004, 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.

15 Floor coverings

15.1 If required, insulation boards of density sufficient for the anticipated design loading, are laid over the membrane.

15.2 Suitable tongue-and-groove flooring board panels should be selected in accordance with BS EN 12871 : 2001, and loose-laid over the membrane to within 10 mm of the walls. The panels are staggered and the joints sealed with a thermoplastic wood adhesive to BS EN 204 : 2001.

15.3 Alternatively, the membrane may be 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.

15.4 Proprietary screeds may also be considered, which can generally be laid at thicknesses less than 50 mm, but the use of these products with the membrane has not been assessed by the BBA.

Technical Investigations

16 Tests

Tests were carried out to determine:

- low temperature flexibility
- puncture resistance under static load
- nail tear resistance.

17 Investigations

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

17.2 An assessment was made of the data contained in SINTEF Technical Approval No 2136 in relation to the national Building Regulations.

Bibliography

BS 5250 : 2002 *Code of practice for control of condensation in buildings*

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

BS 6576 : 2005 *Code of practice for diagnosis of rising damp in walls of buildings and installation of chemical damp-proof courses*

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*

BS EN 204 : 2001 *Classification of thermoplastic wood adhesives for non-structural applications*

BS EN 520 : 2004 *Gypsum plasterboards — Definitions, requirements and test methods*

BS EN 12871 : 2001 *Wood-based panels — Performance specifications and requirements for load bearing boards for use in floors, walls and roofs*

Property Care Association COP02 Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls

18 Conditions

18.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- 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 and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

18.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- remain covered by a valid Norwegian Agrément; and
- are reviewed by the BBA as and when it considers appropriate.

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

- 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 the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

18.5 Any information relating to the manufacture, supply, installation, use and maintenance 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 and maintained. It does 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; 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. 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 manufacture, supply, installation, use and maintenance of this product/system.

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