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BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

Agrément Certificate
00/3733
Product Sheet 3

OLDROYD MEMBRANE SYSTEMS

OLDROYD XP

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Oldroyd XP, a moulded polypropylene sheet, for damp-proofing internal walls and vaulted ceilings above or below ground, and as a support for plastering, dry lining or rendering. It can also be used externally above ground as a waterproof support for render.

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 impact — the product, when plastered, rendered or dry lined, has a satisfactory resistance to soft and hard body impacts (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

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

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, Oldroyd Xp 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 Xp, 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*.

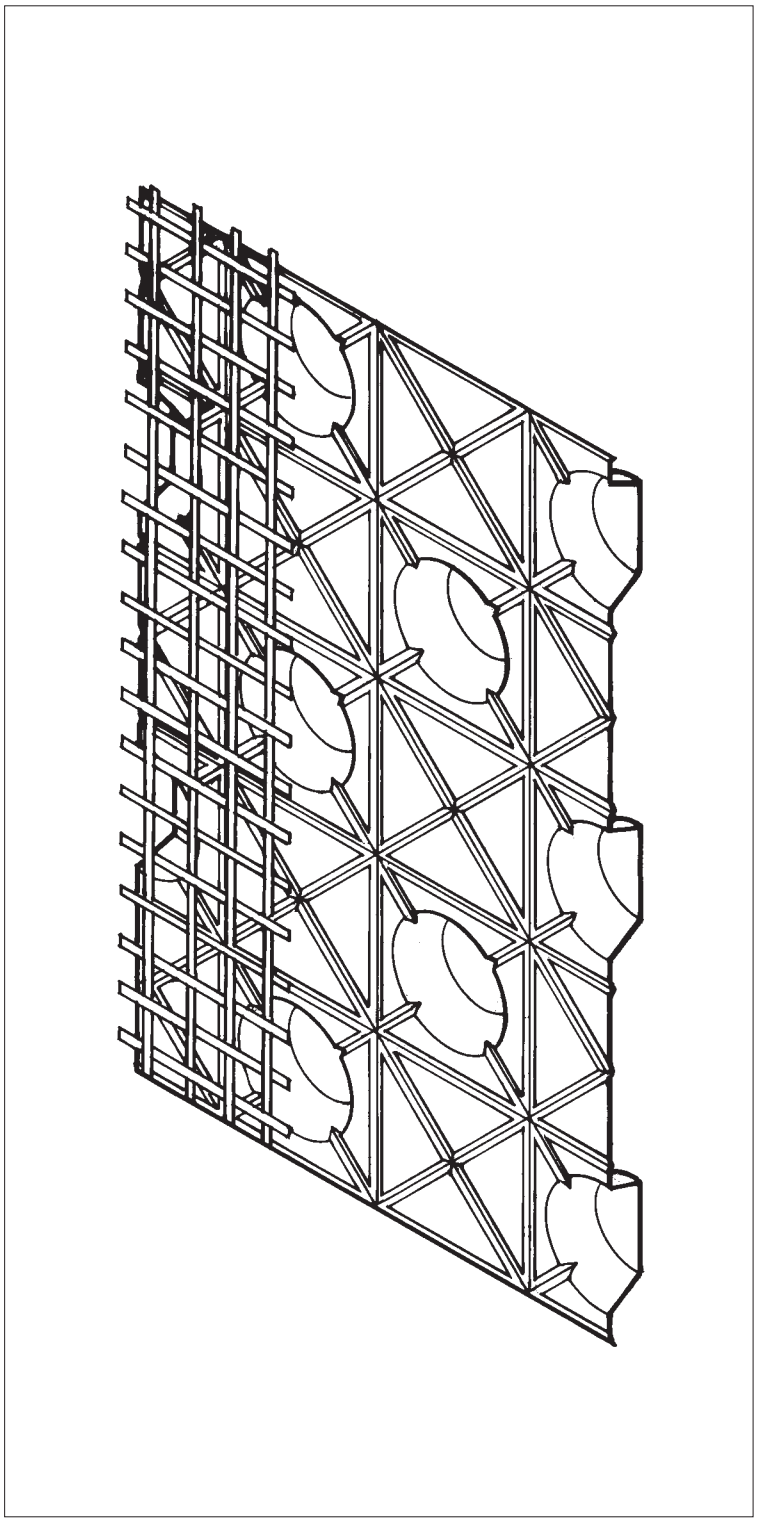
In the opinion of the BBA, the use of Oldroyd Xp, when installed and used in accordance with this Certificate, is capable of satisfying the requirements of the *Zurich Building Guarantee Technical Manual*, Section 3 *Substructure*, Sub-sections *Basements* and *Floors* and Section 4 *Superstructure*,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

Technical Specification

1 Description

1.1 Oldroyd Xp is a green translucent polypropylene sheet, moulded to form raised studs. It has a woven polypropylene mesh thermally-bonded to the membrane on the face side to form a key for plaster and render finishes, see Figure 1.

Figure 1 Oldroyd Xp



1.2 The membrane characteristics are:

Roll width and length (m)	1.5 x 10, 2.0 x 20
Weight of roll (kg)	7.95, 21.2
Thickness (mm)	0.5
Weight (kgm^{-2})	0.53
Height (mm)	5.0
Stud height (mm)	4.0
Width of flange (mm)	62
Air gap volume (lm^{-2})	3

1.3 Ancillary items used with the product 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, 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 Plaster Plugs — plastic plugs, with a large diameter head and holes around the perimeter to act as a key for plaster, for fixing the membrane to walls
- Oldroyd Cotton Fleece Tape — 1 mm by 115 mm cotton-backed butyl tape for sealing butt joints and providing an adequate key for plaster/render coats.

Manufacture

1.4 The membrane is formed in a continuous process in which polypropylene is extruded into sheets and vacuum formed, with polypropylene mesh subsequently heat-welded to the surface.

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 XP.

Design Considerations

3 Use

3.1 Oldroyd XP is satisfactory for use as a damp-proofing membrane on internal walls and vaulted ceilings, above and below ground, in new construction or in existing buildings over a contaminated or damp background. It can support plastering or a dry lining fixed by plaster dabs (where appropriate) 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:

- a dry lining for walls above ground
- a completely sealed system covering floor, wall and ceiling with provision made for disposing of water build-up behind the membrane via a sump and pump. In such situations the product is used in conjunction with other Oldroyd Membrane products, covered by BBA Certification for use over floors.

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 211 (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 membrane is satisfactory for use as a waterproof support for render on walls in exposed external situations, and/or where the brickwork has deteriorated.

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

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 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 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 impact

The membrane when plastered, rendered or dry lined, has a satisfactory resistance to soft and hard body impacts.

8 Wall-mounted fittings

Wall-mounted fittings (apart from lightweight items such as framed pictures) should be fixed (using recommended proprietary fixings) through the membrane and lining board, plaster or render to the loadbearing structure behind. Holes made in the membrane should be filled with a flexible sealant before inserting the fixing.

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 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.

12.2 Uneven substrates should 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 Internally, the membrane should always be used with the lower sheet placed in front of the higher sheet. Externally, the lower sheet should be placed behind the higher sheet.

13.3 Fixings are made through studs into holes drilled through the membrane into the substrate using an 8 mm diameter drill bit (or 7 mm for softer, more friable substrates) to a depth of at least 70 mm. Oldroyd Plugs, to which Oldroyd Jointing Rope has been applied around the rim, are inserted into the holes and gently hammered flush with the membrane. Oldroyd Jointing Rope forms a sealing gasket between the plug and membrane.

13.4 Fixings are made at a maximum spacing of 300 mm for internal plastered or dry-lined situations, or a maximum spacing of 150 mm for external rendered systems.

13.5 On difficult substrates the fact that the membrane is clear will allow the contractor to view the substrate through the membrane and choose the optimum site for each fixing.

13.6 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 studs. On occasions where a butt joint is unavoidable, the edges of both membranes should be cut in a straight line. A strip of dpc or heavy gauge polythene at least 200 mm wide is inserted behind the join, and the two membranes sealed using Oldroyd Cotton Fleece Tape.

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

Ceilings

13.8 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.

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

13.10 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 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 Tape or Rope.

Walls

13.11 Installation of the membrane is commenced at the top of the construction. Joints are made by overlapping the membrane by a minimum of two studs.

13.12 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.

14 Plastering

14.1 The product should be plastered with a plaster recommended in the current Oldroyd Xp technical literature in accordance with BS 8481 : 2006, BS EN 13914-2 : 2005, and/or the appropriate Agrément Certificate.

14.2 The plaster should be a minimum total depth of 15 mm.

15 Rendering

15.1 Where the membrane has been used externally, it must be rendered with a cement-lime-sand (1:1:6) render applied to a total thickness of 20 mm using the procedures defined in BS EN 13914-1 : 2005.

15.2 The render should be applied in three coats with 7 to 10 days being allowed between render coats.

15.3 Alternatively a proprietary polymer/fibre modified render may be used, applied in two coats to a minimum total depth of 25 mm. In such cases, expansion joints must be provided in accordance with the Certificate holder and the render manufacturer's recommendations.

15.4 Due to the difference in thermal characteristics between Oldroyd Xp and the render, expansion joints through the render to the membrane must be trowelled in along each lap joint (ie at maximum centres of 1.4 m or 1.9 m, depending on the width of membrane used) to reduce the possibility of cracking. These joints must be filled with a suitable flexible polymer-based sealant.

15.5 A 5 mm ventilation gap at the top, and at least 20 mm at the bottom should be left to assist the ventilation of the air gap behind the membrane.

15.6 Where a sand-cement mix is to be used internally, two coats each of 7 mm thickness are applied and finished with a 3 mm thick gypsum-based skim coat.

16 Dry lining

16.1 A bonding plaster to BS EN 13279-1 : 2005, is mixed and applied in vertical strips over the fixing centres and in bands along the top and bottom of the membrane. The plaster dabs are applied to a minimum thickness of 8 mm, and should cover a minimum of 50% of the membrane.

16.2 Gypsum plasterboard to BS EN 520 : 2004, or similar dry lining boards covered by a current Agrément Certificate, are pressed onto the plaster dabs and jointed in the usual manner. Temporary spacers approximately 20 mm to 25 mm high are positioned under the dry lining to support it during the curing period.

17 Finishing works

17.1 Where the membrane is installed internally and plastered, permanent decoration, such as vinyl papers or oil paint, may be applied. Temporary permeable decoration (necessary when a remedial dpc installation is replastered conventionally) is not necessary.

17.2 Once the plastered, dry-lined or rendered surface has dried, the surface can be painted or wallpapered using traditional methods and materials.

Technical Investigations

18 Tests

Tests were carried out to determine:

- impact resistance of plastered and rendered membrane
- bond strength of mesh to membrane.

19 Investigations

19.1 The manufacturing process and quality control procedures were examined and details were obtained of the quality and composition of the materials used.

19.2 Trial installations were conducted to assess the practicability of installation of the system and the methods used for plastering and rendering.

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

Bibliography

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

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

BS 8481 : 2006 *Design, preparation and application of internal gypsum, cement, cement and lime plastering systems — Specification*

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

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

BS EN 13279-1 : 2005 *Gypsum binders and gypsum plasters — Definitions and requirements*

BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*

20 Conditions

20.1 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.

20.2 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.

20.3 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
- 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.

20.4 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.

20.5 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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