

## Wykamol Group

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Agrément Certificate  
**02/3961**  
Product Sheet 2

## WYKAMOL CHEMICAL DAMP-PROOFING SYSTEMS

### WYKAMIT PI DAMP-PROOFING SYSTEM

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to the Wykamit PI Damp-Proofing System, a silicone solution for forming a damp-proof course (dpc) in existing walls.

#### 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

**Effectiveness against rising damp** — when injected into suitable substrates in accordance with BS 6576 : 2005, the system forms an effective barrier against rising damp in existing walls (see section 5).

**Odour** — a treated wall should be free from solvent odour within two to four weeks (see section 6).

**Drying time** — after treatment, a 230 mm solid brick wall previously affected by rising damp should normally dry out in 6 to 12 months (see section 7).

**Durability** — the system will remain effective against rising damp for at least 20 years (see section 9).

The BBA has awarded this Agrément Certificate to the company named above for the system described herein. The system 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

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 2 June 2010

Originally certified on 4 December 2002

*The BBA is a UKAS accredited certification body — Number 1113. 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](http://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

## The Building Regulations 2000 (as amended) (England and Wales)



In opinion of the BBA, the use of the Wykamit PI Damp-proofing System in an existing building is not subject to these Regulations, but action to satisfy Requirement C2(a) and Regulation 7 may be necessary for a 'Material change of use' as defined in Regulation 5(a).

Requirement:	C2(a)	Resistance to moisture
Comment:		The system satisfies the BBA rising damp test and adequately resists the passage of moisture. See section 5 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The system is acceptable. See section 9 and the <i>Installation</i> part of this Certificate.

## The Building (Scotland) Regulations 2004 (as amended)



In the opinion of the BBA, the use of the Wykamit PI Damp-proofing System, in an existing building is not controlled by these Regulations, but action to satisfy the Regulation and related Mandatory Standards below may be necessary for a 'Conversion' as defined in Regulation 4 of these Regulations.

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The system can contribute to a construction satisfying this Regulation. See section 9 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.3	Flooding and ground water
Standard:	3.4	Moisture from the ground
Comment:		The system satisfies the BBA rising damp test and adequately resists the passage of moisture and can contribute to satisfying these Standards, with reference to clauses 3.3.1 <sup>(1)(2)</sup> , 3.4.1 <sup>(1)(2)</sup> and 3.4.5 <sup>(1)(2)</sup> . See section 5 of this Certificate.
Regulation:	12	Building standards – conversions
Comment:		All comments given for this system under Regulation 9, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

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



In the opinion of the BBA, the use of the Wykamit PI Damp-proofing System in an existing building is not controlled by these Regulations, but action to satisfy Regulations B2 and C4(a) may be necessary for a 'Material change of use' under Regulation A9.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The system is acceptable and solvent-based, and does not release solvent for an unreasonable period. See sections 6 and 9 and the <i>Installation</i> part of this Certificate.
Regulation:	C4(a)	Resistance to ground moisture and weather
Comment:		The system satisfies the BBA rising damp test and adequately resists the passage of moisture. See section 5 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See sections: 2 *Delivery and site handling* (2.1 to 2.3) and 6 *Odour* and 11 *Precautions* of this Certificate.

# Non-regulatory Information

## NHBC Standards 2008

NHBC accepts the use of the Wykamit PI Damp-Proofing System, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Section 5.1 *Substructure and ground floors*.

# Technical Specification

## 1 Description

1.1 The Wykamit PI Damp-Proofing System is a solution of a silicone water repellent and other additives in low aromatic white spirit, manufactured by a controlled batch blending process. Regular quality control checks are conducted on the final product.

1.2 The installation process involves the saturation of a selected course of brickwork, an equivalent area of blockwork or stone or the mortar bed, with this fluid by pressure injection, and the subsequent replastering.

## 2 Delivery and site handling

2.1 The fluid is supplied in 25 litre and 200 litre plastic containers, bearing the BBA identification mark incorporating the number of this Certificate.

2.2 The fluid has a flashpoint of 38°C to 39°C and must be stored in a cool place away from naked flames.

2.3 The product is classified as 'flammable' and 'irritant' under *The Chemicals Hazard Information and Packaging for Supply) Regulations 2009* (CHIP4).

# Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Wykamit PI Damp-proofing System.

## Design Considerations

### 3 General

3.1 The Wykamit PI Damp-Proofing System is used in accordance with BS 6576 : 2005 in existing:

- solid walls of brickwork, blockwork or natural stone (including flint), up to 600 mm thick
- conventional cavity walls
- walls of rubble-filled construction of any thickness.

3.2 The system provides a barrier against rising damp where there is no dpc or where the existing dpc has failed.

3.3 Replastering is necessary to retain salts in the body of the wall to prevent damage to subsequent redecoration. This must be carried out in accordance with the Wykamol Replastering Specifications (see Appendix).

3.4 Wykamit PI fluid can dissolve expanded polystyrene, and injection into a cavity wall with this insulant must not be attempted. However, expanded polystyrene may be installed in a treated cavity wall, after the solvent has evaporated.

### 4 Practicability of installation

The system should only be installed by installers who have been trained and approved by the Certificate holder.

### 5 Effectiveness against rising damp



When installed in the substrates defined in section 3.1, in accordance with BS 6576 : 2005, the system forms an effective barrier against rising damp.

### 6 Odour



Under normal circumstances a building with a 230 mm thick solid wall or a conventional cavity wall should be free from solvent odour two to four weeks after the application. Solvent odour may persist for a longer period if:

- the building has thicker walls
- fireplace areas have been treated
- the property has both solid and suspended timber floors (which restrict ventilation)
- the property is cold or unventilated.

### 7 Drying time

After treatment, a 230 mm thick solid brick wall, previously affected by rising damp, should normally dry in 6 to 12 months provided normal heating is used during the winter months. A thicker wall may take longer. Where hygroscopic salts are present, the wall may not dry completely but the replastering system will prevent damage to internal decorations.

### 8 Maintenance

Maintenance is not required for this product.

## 9 Durability



Excluding use in new repair work (where highly-alkaline mortars are present), the process is expected to remain effective for at least 20 years.

## Installation

### 10 General

10.1 Installation of the Wykamit PI Damp-Proofing System is carried out in accordance with BS 6576 : 2005, The Property Care Association *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls* and by the Certificate holder's approved contractor.

10.2 Replastering is necessary to prevent damage to subsequent redecoration. To avoid split responsibility, this should be conducted by the installer or his approved agent.

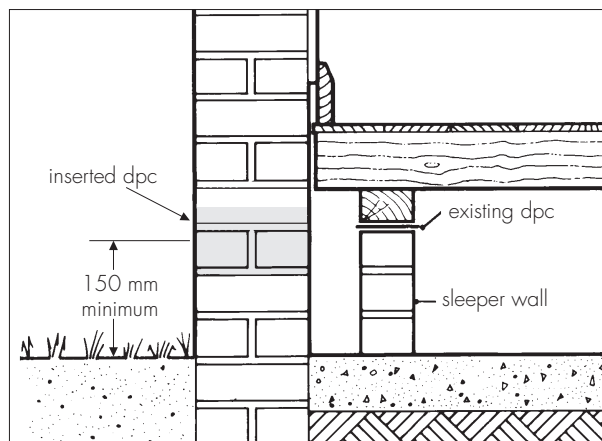
### 11 Precautions

Wykamit PI fluid gives off a flammable vapour and it is essential that no open fires are lit or other sources of ignition are present during and for two days after injection. Full ventilation must be provided during this time to prevent the accumulation of pockets of flammable vapour.

### 12 Timber floor — inspection, preparation and repair

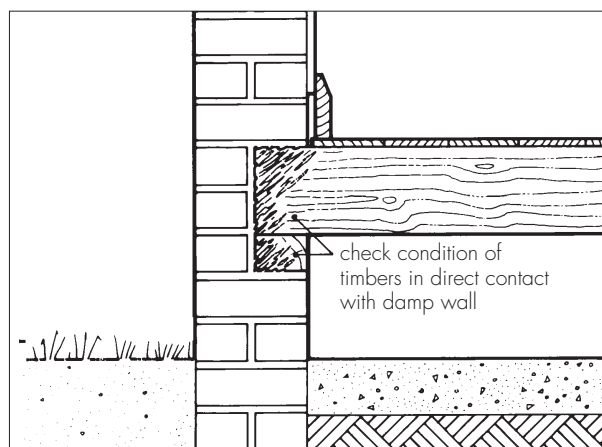
12.1 Where a suspended timber floor is independently supported on sleeper walls, with an effective dpc and showing no signs of dampness, these need not be treated (see Figure 1).

Figure 1 Suspended timber floor on sleeper wall



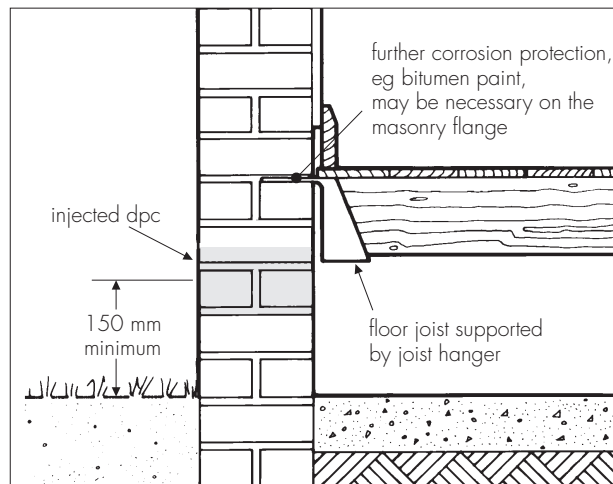
12.2 Where a suspended timber floor is supported on joists and/or a wall plate bearing on, or embedded in, the wall, there is a possibility of decay, particularly where concealed timbers are in contact with the damp wall. The condition of these timbers should be ascertained and remedial action taken if necessary (see Figure 2).

Figure 2 Check embedded timber for decay



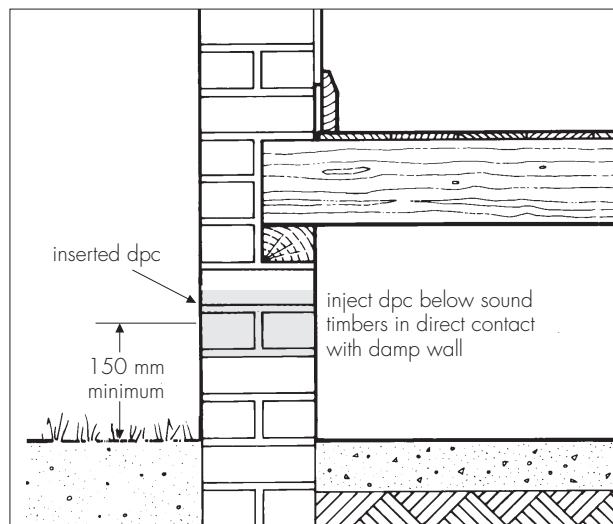
12.3 If damage is limited to the joist ends, the floors may be re-formed, using sleeper walls or joist-hangers, to isolate the timbers from the damp wall (see Figure 3).

Figure 3 Isolation of timber joists from damp wall



12.4 If the timbers are sound, the existing floor may be retained provided the injected dpc is formed below the timber joists and/or wall plate (see Figure 4).

Figure 4 Inject dpc below wall plate



### 13 Preparation

13.1 The course to be injected is chosen so that the position of the horizontal dpc complies, as far as is practicable, with the recommendations of BS 6576 : 2005, Clause 8.3 (see section 12.4 of this Certificate).

13.2 Internal walls on solid floors are treated as close to the floor as possible.

13.3 Complementary vertical dpc are positioned, where necessary, to isolate treated walls from the effects of rising damp in adjoining walls or to maintain continuity between horizontal dpc at different levels.

13.4 Internal plastering affected by hygroscopic salts is removed from the area to be treated to a height of 460 mm above the maximum level of the rising damp. Internal skirtings and flooring are also removed, as necessary, to expose the area for treatment. Externally, the proposed dpc line is exposed, where necessary, by removing any facing material.

### 14 Procedure

14.1 Untreated walls are isolated by the injection of a vertical dpc throughout the thickness of the wall.

14.2 The treated walls are left for a period of at least 14 days to allow initial drying out. Internal plastering is applied in accordance with the details given in the Appendix.

14.3 Particular care is taken to avoid bridging the dpc either internally or externally. Where external rendering has been removed, it is restored, ending in a bellcasting above the injected dpc.

14.4 Holes in the external wall surfaces are plugged with sand/cement mortar or preformed plastic plugs coloured to match the existing wall surface.

14.5 The original survey may have identified other possible causes of dampness, and measures to rectify these are taken as necessary.

### **Brickwork — high pressure**

14.6 Two 10 mm or 13 mm diameter holes are drilled in each stretcher and one in each header, to an average spacing of approximately 120 mm (maximum spacing of 150 mm). If the brickwork is too dense to allow adequate penetration of the fluid, drilling may be carried out in the adjacent mortar course. Percussion drills are not normally used on half-brick walls but may be used when the walls are in good condition. Procedures for different types of wall are:

- walls 115 mm thick — injected from one side only
- solid walls 230 mm thick — normally injected from both sides. If access is restricted they may be drilled progressively (using a sequence of drilling, injecting, re-drilling to deepen the hole by 100 mm to 120 mm and re-injecting)
- solid walls of greater thickness — treated from one or both sides. In each case the progressive injection technique is used
- cavity walls — normally treated from both sides, but if the thickness of the individual leaves permits, the progressive injection technique is used from one side.

14.7 The solution is normally injected at a pressure of 700 kPa. Nozzles fitted with pressure-tight seals are inserted into the drilled holes and injection is continued until complete saturation is achieved and the fluid begins to exude from the substrate. Normally, the treatment of brickwork 230 mm thick will require 2 to 4 litres of fluid per metre run. The nozzles are removed and subsequent holes are similarly injected.

### **Mortar — low pressure**

14.8 Holes are drilled at 150 mm to 170 mm spacings into the mortar along the selected course, avoiding the perpend, and the fluid is injected at 150 kPa to 350 kPa.

### **Stone walls**

14.9 In solid or cavity walls of conventional construction in blockwork or stone, the drilling and injection procedure is adjusted to accommodate variations in the density, porosity and structure. In each case, the procedure chosen must ensure a continuous unbroken treatment along the length of the wall.

### **Rubble-filled stone walls**

14.10 In stone walls with a rubble-filled cavity, the two leaves are first injected using the techniques appropriate to the substrate, then:

- in walls 450 mm thick — holes in one leaf are re-drilled to the centre of the wall (into the rubble infill) and injected singly until fluid exudes from mortar joints below the injection level
- in thicker walls — drilled and injected in the same way from both sides, for example 600 mm walls are drilled to a depth of 200 mm and each hole is injected singly until fluid exudes from the mortar joints below the injection level.

14.11 Normally, the treatment of the rubble core of a 450 mm thick wall will require 4 to 5 litres of fluid per metre run (increased pro rata for thicker walls).

### **Flint walls**

14.12 In flint walls, holes are drilled into the mortar joint, either horizontally or at an angle, to the mid-point of the wall, at 75 mm intervals. Injection is carried out at 400 kPa until complete saturation is achieved, and is visible on both faces of the wall.

## Technical Investigations

### **15 Investigations**

15.1 The manufacturing processes were examined, and the raw material specifications, formulations and quality control procedures were established.

15.2 A reassessment was made of existing data on the system from previous Certificates.

15.3 A user survey of installers of the system was conducted.

15.4 Details were obtained of the criteria used by the Certificate holder in appointing approved contractors.

## Additional Information

The management systems of Wykamol Group have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by Garek Assured (Certificate No 0111/1104.02).

## Bibliography

- 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 EN 197-1 : 2000 *Cement — Composition, specifications and conformity criteria for common cements*
- BS EN 13139 : 2002 *Aggregates for mortar*
- BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*
- BS EN ISO 9001 : 2008 *Quality management systems — Requirements*
- Property Care Association COP09/09 *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*

## 16 Conditions

16.1 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.

16.2 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.

16.3 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.

16.4 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.

16.5 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.

## Wykamol Group's Replastering Specification

### A1 Preparation

A1.1 Wykamol Replastering Specifications are carried out by the Certificate holder's approved contractor in accordance with BS 6576 : 2005, and the Property Care Association *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*.

A1.2 Plaster affected by hygroscopic salts is removed as described in section 13.4.

A1.3 Replastering can commence after a minimum period of 14 days from installation of the remedial dpc.

A1.4 If the background is impermeable and offers little suction (eg where rising damp has occurred in the mortar joints), the joints are raked out to provide a mechanical key and/or SBR Latex bonding primer is applied to the surface and the wall is replastered immediately.

### A2 Wykamol Replastering Products

Wykamol Renovating Plaster — a premixed cement-based lightweight plaster

Integral Waterproofer No 2 — a salt-retardant additive for use in sand-cement mixes

Brunopel IWP — a salt-retardant additive for use in sand-cement mixes

Brunolene PS — a salt-retardant additive for use in sand-cement or sand-lime-cement mixes or with Wykamol Renovating Plaster.

### A3 Procedure — Wykamol Renovating Plaster

A3.1 The plaster is mixed with clean water (or a gauging solution containing Brunolene PS) in clean containers, by hand or mechanically, to a normal plastering consistency. Over-mixing is to be avoided and hand-mixing is preferably conducted in a trough using a hoe or plasterer's drag.

A3.2 The plaster is applied, generally in accordance with BS 8481 : 2006 and BS EN 13914-2 : 2005, to achieve a thickness of between 10 mm and 15 mm, and the surface is lightly scratched. The plaster is applied no lower than the level of the dpc. If necessary, a batten is used to achieve this.

A3.3 If the maximum thickness of the required backing coat is to exceed 15 mm, a scratch or dubbing-out coat is necessary to achieve a level surface. Each coat applied must not exceed 15 mm, be well scratched and allowed to dry before the application of the subsequent coat.

A3.4 Normally, Wykamol Renovating Plaster sets in seven hours.

### A4 Procedure — Other renovating plaster mixes

A4.1 Integral Waterproofer No 2 and Brunopel IWP are used in a 3:1 sand-cement mix comprising<sup>(1)</sup>:

- Portland cement — CEM I class 52,5 N to BS EN 197-1 : 2000
- aggregate — clean, sharp, washed sand, free of salt, suitably graded for plastering to BS EN 13139 : 2002
- gauging water — potable water gauged with: one part of Integral Waterproofer No 2 to 25 parts of water, or one part of Brunopel IWP to 30 parts of water.

(1) These dosing rates are appropriate for dry sand and can be adjusted if the sand is wet.

A4.2 The Brunolene PS additive is used in weaker mixes (eg 6:1 sand-cement or 6:1:1 sand-lime-cement) or with Wykamol Renovating Plaster, gauged with potable water containing one part of Brunolene PS to 30 parts of water (assuming dry sand in 6:1 or 6:1:1 mixes).

A4.3 The sand-cement-additive mix is applied at a thickness of 10 mm. After the first set of this mix is taken up, the surface must be combed or scratched to provide a mechanical key. Where necessary, a second undercoat of sand and cement is applied; the mix proportions and additive used at the same rate as for the first coat. This coat must also be combed or scratched to provide a key.

### A5 Finishing coats

After allowing the back coat to set and dry for at least 24 hours, the finishing plaster<sup>(1)</sup> is applied approximately 1.5 mm to 3 mm thickness. In very wet conditions the drying time can be longer and the finishing plaster must not be applied until it is dry.

(1) covered by a valid Agrément Certificate.

## **A6 General**

The following general information should also be observed.

A6.1 The amount of gauging water in the undercoats should be a minimum consistent with reasonable application.

A6.2 Undercoats based on gypsum must never be used in this type of application.

A6.3 It is recommended that the undercoats be scrape finished to minimise the risk of cracking.

A6.4 A strong mix is never applied over a weak mix or backing.

A6.5 Where scratch coats are to be left as a finish, a high quality wood float finish may be used. However, it is preferred to scrape the finish to a textured surface.

A6.6 Finishing plaster is not recommended if the surface is to be tiled.

## **A7 Dry-lining methods**

A7.1 In certain circumstances replastering of walls following chemical dpc insertion is not feasible, eg extremely friable wall surfaces, uneven wall profiles. Where dry lining is to be carried out, this must be in accordance with the manufacturer's recommendations. Care should be taken to ensure that gypsum adhesives are not used in 'dot and dab' applications directly onto the wall surface. Timber used as battens must be pre-treated and all cut ends re-treated on site. Ventilation must be provided behind the system until the walls have dried out to reduce the possibility of condensation within the void.

A7.2 On walls which are persistently damp due to the presence of high concentrations of hygroscopic salts, normal dry-lining methods are unsuitable. However, in such cases reinstatement can proceed in conjunction with a BBA approved ventilated dry lining system, based on a high-density polyethylene (HDPE) membrane which provides a vapour impermeable surface suitable for conventional plastering and/or dry-lining techniques.

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Agrément Certificate  
**02/3961**  
Product Sheet 3

## WYKAMOL CHEMICAL DAMP-PROOFING SYSTEMS

### WYKAMOL INJECTION MORTAR

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Wykamol Injection Mortar, a cementitious product for forming a damp-proof course (dpc) in existing walls.

#### 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

**Effectiveness against rising damp** — when injected into suitable substrates in accordance with BS 6576 : 2005, the product forms an effective barrier against rising damp in existing walls (see section 5).

**Odour** — the product is odourless and gives off no harmful vapours (see section 6).

**Drying time** — after treatment, a 230 mm solid brick wall previously affected by rising damp should normally dry out in 6 to 12 months (see section 7).

**Durability** — the product will remain effective against rising damp for at least 20 years (see section 9).



The BBA has awarded this Agrément Certificate to the company named above for the product described herein. The 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

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 2 June 2010

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*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

## The Building Regulations 2000 (as amended) (England and Wales)



In the opinion of the BBA, the use of the Wykamol Injection Mortar in an existing building is not subject to these Regulations, but action to satisfy Requirement C2(a) and Regulation 7 may be necessary for a 'Material change of use' as defined in Regulation 5(a).

Requirement:	C2(a)	Resistance to moisture
Comment:		The product satisfies the BBA rising damp test and adequately resists the passage of moisture. See section 5 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 9 and the <i>Installation</i> part of this Certificate.

## The Building (Scotland) Regulations 2004 (as amended)



In the opinion of the BBA, the use of the Wykamol Injection Mortar, in an existing building is not controlled by these Regulations, but action to satisfy the Regulation and related Mandatory Standards below may be necessary for a 'Conversion' as defined in Regulation 4 of these Regulations.

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction satisfying this Regulation. See section 9 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.3	Flooding and ground water
Standard:	3.4	Moisture from the ground
Comment:		The product satisfies the BBA rising damp test and adequately resists the passage of moisture and can contribute to satisfying these Standards, with reference to clauses 3.3.1 <sup>(1)(2)</sup> , 3.4.1 <sup>(1)(2)</sup> and 3.4.5 <sup>(1)(2)</sup> . See section 5 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 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

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



In the opinion of the BBA, the use of the Wykamol Injection Mortar in an existing building is not controlled by these Regulations, but action to satisfy Regulations B2 and C4(a) may be necessary for a 'Material change of use' under Regulation A9.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable and water-based, and does not release solvent for an unreasonable period. See sections 6 and 9 and the <i>Installation</i> part of this Certificate.
Regulation:	C4(a)	Resistance to ground moisture and weather
Comment:		The product satisfies the BBA rising damp test and adequately resists the passage of moisture. See section 5 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 2 *Delivery and site handling* (2.1 and 2.2) of this Certificate.

# Non-regulatory Information

## NHBC Standards 2008

NHBC accepts the use of Wykamol Injection Mortar, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Section 5.1 *Substructure and ground floors*.

# Technical Specification

## 1 Description

1.1 Wykamol Injection Mortar is a dry mixture of Portland cement and chemical additives, manufactured by a controlled batch blending process. Regular quality control checks are conducted on the final product.

1.2 The installation process involves the introduction of a slurry of Wykamol Injection Mortar into angled, holes in the walls, using a caulking gun, and the subsequent replastering.

## 2 Delivery and site handling

2.1 The product is packed in 25 kg polypropylene hessian sacks, bearing the manufacturer's marking, application instructions and the date of manufacture.

2.2 The product is classified as 'irritant' under *The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009* (CHIP4), and conventional precautions for cement are followed during handling, transport and storage.

# Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Wykamol Injection Mortar.

## Design Considerations

### 3 General

3.1 Wykamol Injection Mortar is used in accordance with BS 6576 : 2005 in existing:

- solid walls of brickwork, blockwork or natural stone (including flint), up to 600 mm thick
- conventional cavity walls,
- walls of rubble-filled construction of any thickness.

3.2 The product provides a barrier against rising damp where there is no dpc or where the existing dpc has failed.

3.3 Replastering is necessary to retain salts in the body of the wall to prevent damage to subsequent redecoration. This must be carried out in accordance with the Wykamol Replastering Specifications (see Appendix).

3.4 Wykamol Injection Mortar has no effect on expanded polystyrene or bitumen.

### 4 Practicability of installation

The product should only be installed by installers who have been trained and approved by the Certificate holder.

### 5 Effectiveness against rising damp



When installed in the substrates defined in section 3.1, in accordance with BS 6576 : 2005, the product forms an effective barrier against rising damp.

### 6 Odour



The product is odourless and gives off no harmful vapours.

### 7 Drying time

After treatment, a 230 mm thick solid brick wall, previously affected by rising damp, should normally dry in 6 to 12 months provided normal heating is used during the winter months. A thicker wall may take longer. Where hygroscopic salts are present, the wall may not dry completely but the replastering system will prevent damage to internal decorations.

### 8 Maintenance

Maintenance is not required for this product.

### 9 Durability



The product is expected to remain effective for at least 20 years.

## 10 General

10.1 Installation of Wykamol Injection Mortar is carried out in accordance with BS 6576 : 2005, *The Property Care Association Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls* and by the Certificate holder's approved contractor.

10.2 Replastering is necessary to prevent damage to subsequent redecoration. To avoid split responsibility, this should be conducted by the installer or his approved agent.

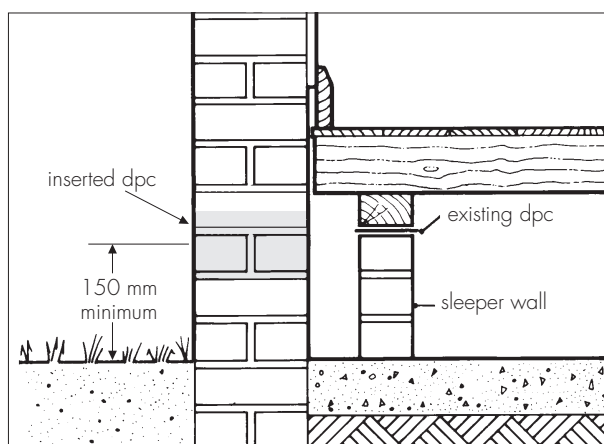
## 11 Precautions

Wykamol Injection Mortar in powder and slurry forms presents no flammability hazard.

## 12 Timber floor – inspection, preparation and repair

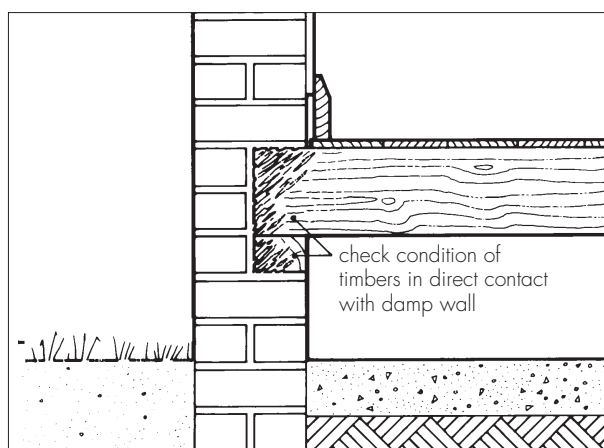
12.1 Where a suspended timber floor is independently supported on sleeper walls, with an effective dpc and showing no signs of dampness, these need not be treated (see Figure 1).

Figure 1 Suspended timber floor on sleeper wall



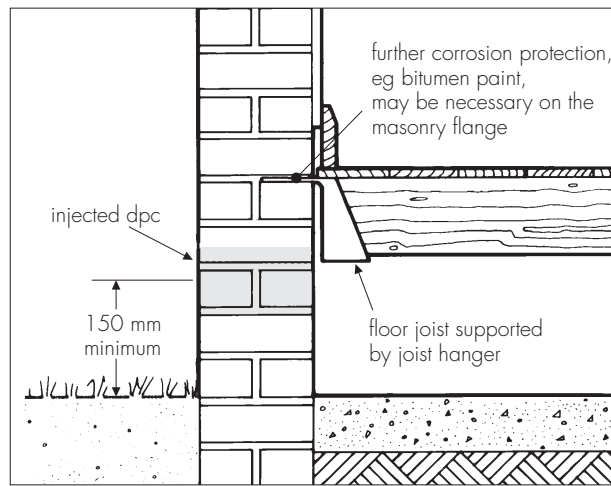
12.2 Where a suspended timber floor is supported on joists and/or a wall plate bearing on, or embedded in the wall, there is a possibility of decay, particularly where concealed timbers are in contact with the damp wall. The condition of these timbers should be ascertained and remedial action taken if necessary (see Figure 2).

Figure 2 Check embedded timber for decay



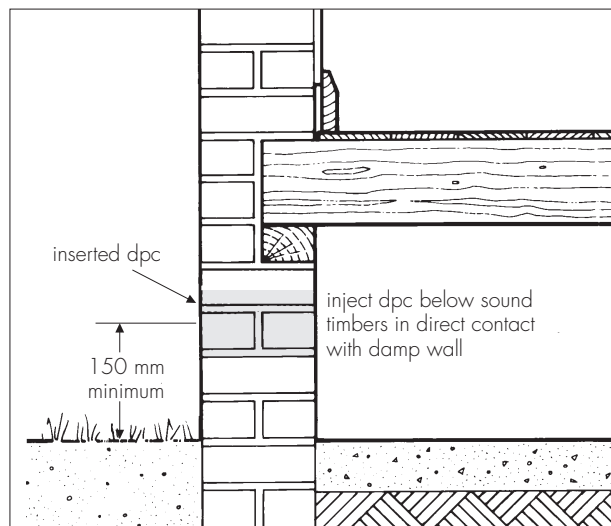
12.3 If damage is limited to the joist ends, the floors may be re-formed, using sleeper walls or joist-hangers, to isolate the timbers from the damp wall (see Figure 3).

Figure 3 Isolation of timber joists from damp wall



12.4 If the timbers are sound, the existing floor may be retained provided the injected dpc is formed below the timber joists and/or wall plate (see Figure 4).

Figure 4 Inject dpc below wall plate



### 13 Preparation

13.1 The course to be injected is chosen so that the position of the horizontal dpc complies, as far as is practicable, with the recommendations of BS 6576 : 2005, Clause 8.3 (see section 12.4 of this Certificate).

13.2 Internal walls on solid floors are treated as close to the floor as possible.

13.3 Complementary vertical dpc's are positioned, where necessary, to isolate treated walls from the effects of rising damp in adjoining walls or to maintain continuity between horizontal dpc's at different levels.

13.4 Internal plastering affected by hygroscopic salts is removed from the area to be treated to a height of 460 mm above the maximum level of the rising damp. Internal skirtings and flooring are also removed, as necessary, to expose the area for treatment. Externally, the proposed dpc line is exposed, where necessary, by removing any facing material.

### 14 Procedure

14.1 Untreated walls are isolated by the injection of a vertical dpc throughout the thickness of the wall.

14.2 The treated walls are left for a period of at least 14 days to allow initial drying out. Internal plastering is applied in accordance with the details given in the Appendix.

14.3 Particular care is taken to avoid bridging the dpc, either internally or externally. Where external rendering has been removed, it is restored, ending in a bellcasting above the injected dpc.

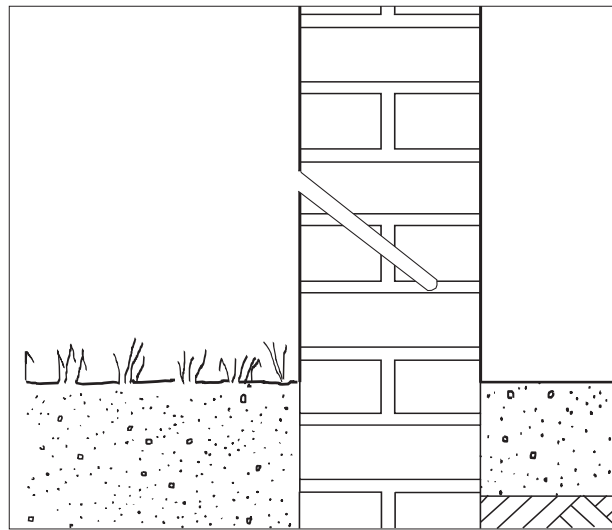
14.4 Holes in the external wall surfaces are plugged with sand/cement mortar or preformed plastic plugs coloured to match the existing wall surface.

14.5 The original survey may have identified other possible causes of dampness, and measures to rectify these are taken as necessary.

## Drilling

14.6 Holes of 18 mm to 20 mm are drilled at the intended dpc level at an angle of depression of between 20° and 30° to a depth equivalent to the thickness of the wall (see Figure 5).

Figure 5 Angled drilling into the mortar course



14.7 To avoid damage the drilling is normally started in the mortar line and percussion drills are not used when drilling is close to the remote face.

14.8 Normally, drillings are made from each side at a maximum spacing of 230 mm. The opposing drillings are staggered, to give an overall spacing of 115 mm.

14.9 Where access is restricted, drillings are made from one side at maximum centres of 115 mm.

14.10 Half-brick walls are not drilled, but the bed-joint is raked out to half its depth and filled with Wykamol Injection Mortar.

### Treatment

14.11 The drilled holes are flushed with water to remove any dust. Wykamol Injection Mortar is mixed with water (Wykamol Injection Mortar : water, 5 : 3 by volume) to form a smooth paste, and is inserted into the drilled holes using the caulking gun. Care is taken to ensure that no air bubbles are trapped, and that the mortar is used within its 30-minute pot life. The mortar is struck level and the face is coloured to match its surroundings.

14.12 The application rate in typical 225 mm thick solid brickwork is approximately 1 kg per metre of wall.

## Technical Investigations

### 15 Tests

Tests were carried out by the BBA to determine the effectiveness against rising damp to MOAT No 39 : 1988, Method 4.3.1.4.

### 16 Investigations

16.1 A re-examination was made of existing data and investigations held on the product. The conclusions drawn remain valid.

16.2 An assessment was made of Wykamol's safety assessment on Wykamol Injection Mortar under the Control of Substances Hazardous to Health (COSHH) Regulations 1999.

## Additional Information

The management systems of Wykamol Group have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by Garek Assured (Certificate No 0111/1104.02).

## Bibliography

- 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 EN 197-1 : 2000 *Cement — Composition, specifications and conformity criteria for common cements*
- BS EN 13139 : 2002 *Aggregates for mortar*
- BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*
- BS EN ISO 9001 : 2008 *Quality management systems — Requirements*
- Property Care Association COP09/09 *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*
- MOAT No 39 : 1988 *The assessment of damp-proof course systems for existing buildings*

## 17 Conditions

17.1 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.

17.2 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.

17.3 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.

17.4 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.

17.5 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.

## Wykamol Group's Replastering Specification

### A1 Preparation

A1.1 Wykamol Replastering Specifications are carried out by the Certificate holder's approved contractor in accordance with BS 6576 : 2005, and the Property Care Association *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*.

A1.2 Plaster affected by hygroscopic salts is removed as described in section 13.4.

A1.3 Replastering can commence after a minimum period of 14 days from installation of the remedial dpc.

A1.4 If the background is impermeable and offers little suction (eg where rising damp has occurred in the mortar joints), the joints are raked out to provide a mechanical key and/or SBR Latex bonding primer is applied to the surface and the wall is replastered immediately.

### A2 Wykamol Replastering Products

Wykamol Renovating Plaster — a premixed cement-based lightweight plaster

Integral Waterproofer No 2 — a salt-retardant additive for use in sand-cement mixes

Brunopel IWP — a salt-retardant additive for use in sand-cement mixes

Brunolene PS — a salt-retardant additive for use in sand-cement or sand-lime-cement mixes or with Wykamol Renovating Plaster.

### A3 Procedure — Wykamol Renovating Plaster

A3.1 The plaster is mixed with clean water (or a gauging solution containing Brunolene PS) in clean containers, by hand or mechanically, to a normal plastering consistency. Over-mixing is to be avoided and hand-mixing is preferably conducted in a trough using a hoe or plasterer's drag.

A3.2 The plaster is applied, generally in accordance with BS 8481 : 2006 and BS EN 13914-2 : 2005, to achieve a thickness of between 10 mm and 15 mm, and the surface is lightly scratched. The plaster is applied no lower than the level of the dpc. If necessary, a batten is used to achieve this.

A3.3 If the maximum thickness of the required backing coat is to exceed 15 mm, a scratch or dubbing-out coat is necessary to achieve a level surface. Each coat applied must not exceed 15 mm, be well scratched and allowed to dry before the application of the subsequent coat.

A3.4 Normally, Wykamol Renovating Plaster sets in seven hours.

### A4 Procedure — Other renovating plaster mixes

A4.1 Integral Waterproofer No 2 and Brunopel IWP are used in a 3:1 sand-cement mix comprising<sup>(1)</sup>:

- Portland cement — CEM I class 52,5 N to BS EN 197-1 : 2000
- aggregate — clean, sharp, washed sand, free of salt, suitably graded for plastering to BS EN 13139 : 2002
- gauging water — potable water gauged with: one part of Integral Waterproofer No 2 to 25 parts of water, or one part of Brunopel IWP to 30 parts of water.

(1) These dosing rates are appropriate for dry sand and can be adjusted if the sand is wet.

A4.2 The Brunolene PS additive is used in weaker mixes (eg 6:1 sand-cement or 6:1:1 sand-lime-cement) or with Wykamol Renovating Plaster, gauged with potable water containing one part of Brunolene PS to 30 parts of water (assuming dry sand in 6:1 or 6:1:1 mixes).

A4.3 The sand-cement-additive mix is applied at a thickness of 10 mm. After the first set of this mix is taken up, the surface must be combed or scratched to provide a mechanical key. Where necessary, a second undercoat of sand and cement is applied; the mix proportions and additive used at the same rate as for the first coat. This coat must also be combed or scratched to provide a key.

### A5 Finishing coats

After allowing the back coat to set and dry for at least 24 hours, the finishing plaster<sup>(1)</sup> is applied approximately 1.5 mm to 3 mm thickness. In very wet conditions the drying time can be longer and the finishing plaster must not be applied until it is dry.

(1) covered by a valid Agrément Certificate.

## **A6 General**

The following general information should also be observed.

A6.1 The amount of gauging water in the undercoats should be a minimum consistent with reasonable application.

A6.2 Undercoats based on gypsum must never be used in this type of application.

A6.3 It is recommended that the undercoats be scrape finished to minimise the risk of cracking.

A6.4 A strong mix is never applied over a weak mix or backing.

A6.5 Where scratch coats are to be left as a finish, a high quality wood float finish may be used. However, it is preferred to scrape the finish to a textured surface.

A6.6 Finishing plaster is not recommended if the surface is to be tiled.

## **A7 Dry-lining methods**

A7.1 In certain circumstances replastering of walls following chemical dpc insertion is not feasible, eg extremely friable wall surfaces, uneven wall profiles. Where dry lining is to be carried out, this must be in accordance with the manufacturer's recommendations. Care should be taken to ensure that gypsum adhesives are not used in 'dot and dab' applications directly onto the wall surface. Timber used as battens must be pre-treated and all cut ends re-treated on site. Ventilation must be provided behind the system until the walls have dried out to reduce the possibility of condensation within the void.

A7.2 On walls which are persistently damp due to the presence of high concentrations of hygroscopic salts, normal dry-lining methods are unsuitable. However, in such cases reinstatement can proceed in conjunction with a BBA approved ventilated dry lining system, based on a high-density polyethylene (HDPE) membrane which provides a vapour impermeable surface suitable for conventional plastering and/or dry-lining techniques.

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Agrément Certificate  
**02/3961**  
Product Sheet 4

## WYKAMOL CHEMICAL DAMP-PROOFING SYSTEMS

### WYKAMOL SILICONATE K DAMP-PROOFING SYSTEM

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to the Wykamol Siliconate K Damp-Proofing System, an aqueous siliconate solution in concentrated form for forming a damp-proof course (dpc) in existing walls.

#### 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

**Effectiveness against rising damp** — when injected into suitable substrates in accordance with BS 6576 : 2005, the system forms an effective barrier against rising damp in existing walls (see section 5).

**Odour** — the system is odourless and gives off no harmful vapours (see section 6).

**Drying time** — after treatment, a 230 mm solid brick wall previously affected by rising damp should normally dry out in 6 to 12 months (see section 7).

**Durability** — the system will remain effective against rising damp for at least 20 years (see section 9).

The BBA has awarded this Agrément Certificate to the company named above for the system described herein. The system 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

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 2 June 2010

Originally certified on 4 December 2002

*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](http://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

## The Building Regulations 2000 (as amended) (England and Wales)



In the opinion of the BBA, the use of the Wykamol Siliconate K Damp-proofing System in an existing building is not subject to these Regulations, but action to satisfy Requirement C2(a) and Regulation 7 may be necessary for a 'Material change of use' as defined in Regulation 5(a).

Requirement:	C2(a)	Resistance to moisture
Comment:		The system satisfies the BBA rising damp test and adequately resists the passage of moisture. See section 5 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The system is acceptable. See section 9 and the <i>Installation</i> part of this Certificate.

## The Building (Scotland) Regulations 2004 (as amended)



In the opinion of the BBA, the use of the Wykamol Siliconate K Damp-proofing System, in an existing building is not controlled by these Regulations, but action to satisfy the Regulation and related Mandatory Standards below may be necessary for a 'Conversion' as defined in Regulation 4 of these Regulations.

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The system can contribute to a construction satisfying this Regulation. See section 9 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.3	Flooding and ground water
Standard:	3.4	Moisture from the ground
Comment:		The system satisfies the BBA rising damp test and adequately resists the passage of moisture and can contribute to satisfying these Standards, with reference to clauses 3.3.1 <sup>(1)(2)</sup> , 3.4.1 <sup>(1)(2)</sup> and 3.4.5 <sup>(1)(2)</sup> . See section 5 of this Certificate.
Regulation:	12	Building standards – conversions
Comment:		All comments given for this system under Regulation 9, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

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



In the opinion of the BBA, the use of the Wykamol Siliconate K Damp-proofing System in an existing building is not controlled by these Regulations, but action to satisfy Regulations B2 and C4(a) may be necessary for a 'Material change of use' under Regulation A9.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The system is acceptable and water-based, and does not release solvent for an unreasonable period. See sections 6 and 9 and the <i>Installation</i> part of this Certificate.
Regulation:	C4(a)	Resistance to ground moisture and weather
Comment:		The system satisfies the BBA rising damp test and adequately resists the passage of moisture. See section 5 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: *2 Delivery and site handling* (2.1 to 2.3) of this Certificate.

# Non-regulatory Information

## NHBC Standards 2008

NHBC accepts the use of the Wykamol Siliconate K Damp-Proofing System, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Section 5.1 *Substructure and ground floors*.

# Technical Specification

## 1 Description

1.1 The Wykamol Siliconate K Damp-Proofing System, is an aqueous concentrate of potassium methyl silicate, manufactured by a controlled batch blending process. Regular quality control checks are conducted on the final product.

1.2 The concentrate is diluted with tap water (1 : 6 by volume) at the installer's premises to give the injection fluid.

1.3 The accuracy of dilution can be checked by tests to The Property Care Association *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*. The minimum values (percentage by weight) that should be achieved are:

solids content	6.00
silicate content	3.50
silicon content	1.46

1.4 The installation process involves the saturation of a selected course of brickwork, or an equivalent area of blockwork, stone or the mortar bed, with this fluid by pressure injection, and the subsequent replastering.

## 2 Delivery and site handling

2.1 Wykamol Siliconate K concentrate is supplied in 25 litre drums or in 3.6 litre sealed plastic containers which bear the BBA identification mark incorporating the number of this Certificate.

2.2 Both the concentrate and diluted fluid are alkaline and classified as 'corrosive' under *The Chemicals (Hazard Information and Packaging for supply) Regulations 2009* (CHIP4) and carry the appropriate health warning. Precautions are necessary during handling, dilution and injection, to avoid contact from spillage or leakage. The normal precautions (use of goggles or visor, gloves, protective clothing and the prompt removal of contaminated clothing) should be observed with particular rigour during the handling of the concentrate. Should the fluid come into contact with the skin it must be washed off promptly. If it comes into contact with the eyes they should be flushed with cold water for 10 minutes, and medical attention sought.

2.3 To protect third parties from contact with the alkaline fluid, the working area is coned off from the public highway during treatment (for example, when terraced houses abutting the pavement are treated).

## Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on the Wykamol Siliconate K Damp-proofing System.

## Design Considerations

### 3 General

3.1 The Wykamol Siliconate K Damp-Proofing System is used in accordance with BS 6576 : 2005 in existing:

- solid walls of brickwork, blockwork or natural stone (including flint), up to 600 mm thick
- conventional cavity walls, or
- walls of rubble-filled construction of any thickness.

3.2 The system provides a barrier against rising damp where there is no dpc or where the existing dpc has failed.

3.3 Replastering is necessary to retain salts in the body of the wall to prevent damage to subsequent redecoration. This must be carried out in accordance with the Wykamol Replastering Specifications (see Appendix).

3.4 The system has no effect on expanded polystyrene or bitumen.

### 4 Practicability of installation

The system should only be installed by installers who have been trained and approved by the Certificate holder.

### 5 Effectiveness against rising damp



When installed in the substrates defined in section 3.1, in accordance with BS 6576 : 2005, the product forms an effective barrier against rising damp.

### 6 Odour



The diluted fluid is odourless and gives off no harmful vapours.

## 7 Drying time

After treatment, a 230 mm thick solid brick wall, previously affected by rising damp, should normally dry in 6 to 12 months provided normal heating is used during the winter months. A thicker wall may take longer. Where hygroscopic salts are present, the wall may not dry completely but the replastering system will prevent damage to internal decorations.

## 8 Maintenance

Maintenance is not required for this product.

## 9 Durability



Excluding use in new repair work (where highly-alkaline mortars are present), the process is expected to remain effective for at least 20 years.

# Installation

## 10 General

10.1 Installation of the Wykamol Silicate K Damp-Proofing System is carried out in accordance with BS 6576 : 2005, *The Property Care Association Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls* and by the Certificate holder's approved contractor.

10.2 Replastering is necessary to prevent damage to subsequent redecoration. To avoid split responsibility, this should be conducted by the installer or his approved agent.

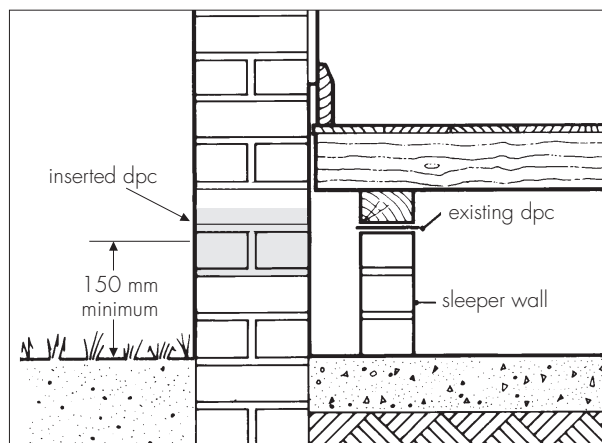
## 11 Precautions

Wykamol Silicate K Damp-proofing System concentrate and diluted fluid are water-based and present no flammability hazards.

## 12 Timber floor – inspection, preparation and repair

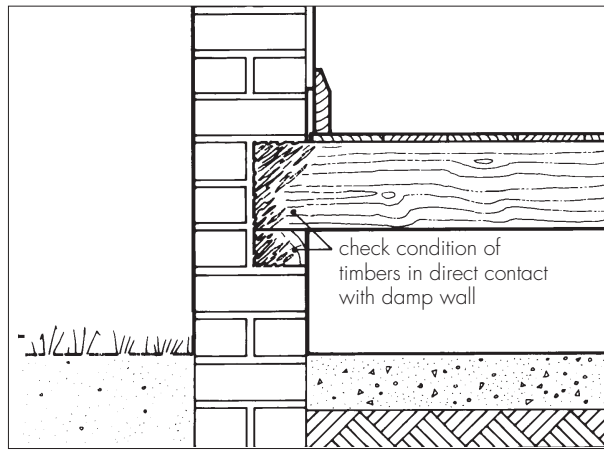
12.1 Where a suspended timber floor is independently supported on sleeper walls, with an effective dpc and showing no signs of dampness, these need not be treated (see Figure 1).

Figure 1 Suspended timber floor on sleeper wall



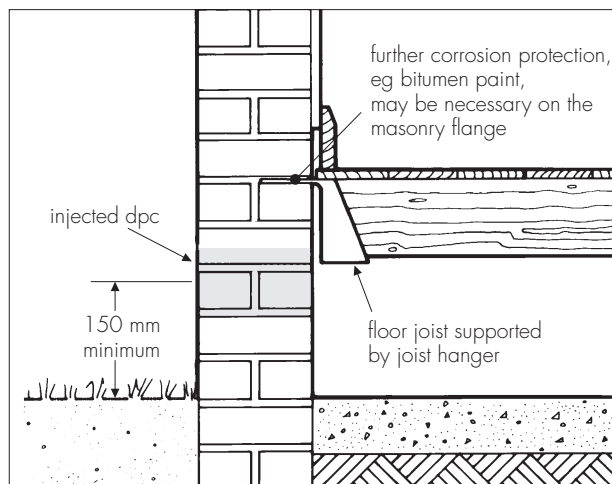
12.2 Where a suspended timber floor is supported on joists and/or a wall plate bearing on, or embedded in the wall, there is a possibility of decay, particularly where concealed timbers are in contact with the damp wall. The condition of these timbers should be ascertained and remedial action taken if necessary (see Figure 2).

Figure 2 Check embedded timber for decay



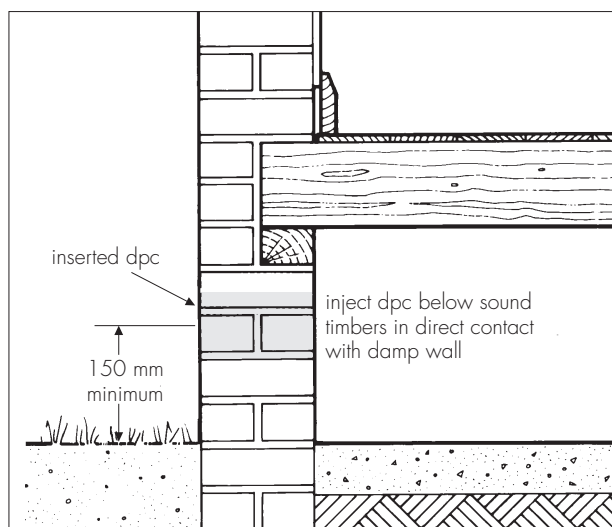
12.3 If damage is limited to the joist ends, the floors may be re-formed, using sleeper walls or joist-hangers, to isolate the timbers from the damp wall (see Figure 3).

Figure 3 Isolation of timber joists from damp wall



12.4 If the timbers are sound, the existing floor may be retained provided the injected dpc is formed below the timber joists and/or wall plate (see Figure 4).

Figure 4 Inject dpc below wall plate



### 13 Preparation

13.1 The course to be injected is chosen so that the position of the horizontal dpc complies, as far as is practicable, with the recommendations of BS 6576 : 2005, Clause 8.3 (see section 12.4 of this Certificate).

13.2 Internal walls on solid floors are treated as close to the floor as possible.

13.3 Complementary vertical dpc's are positioned, where necessary, to isolate treated walls from the effects of rising damp in adjoining walls or to maintain continuity between horizontal dpc's at different levels.

13.4 Internal plastering affected by hygroscopic salts is removed from the area to be treated to a height of 460 mm above the maximum level of the rising damp. Internal skirtings and flooring are also removed, as necessary, to expose the area for treatment. Externally, the proposed dpc line is exposed, where necessary, by removing any facing material.

## 14 Procedure

### Mortar — low pressure

14.1 Holes 10 mm or 16 mm in diameter are drilled to predetermined depths along the selected mortar course at spacings of 150 mm to 170 mm along the selected course, avoiding the perpend (percussion drills are not used on half-brick walls). The holes are drilled either horizontally into the mortar joints or angled downwards at 30° to 40°, terminating in a mortar bed joint at the level of the required dpc. Procedures for different types of wall are:

- walls 115 mm thick — injected from one side only
- solid walls 230 mm thick — normally injected from both sides. If access is restricted they may be drilled progressively (using a sequence of drilling, injection, re-drilling to deepen the hole by 100 mm to 120 mm and re-injecting)
- solid walls of greater thickness — treated from one or both sides. In each case the progressive injection technique is used
- cavity walls — normally treated from both sides, but if the thickness of the individual leaves permits, the progressive injection technique is used from one side.

14.2 The silicate solution is injected at nominal pressure of 300 kPa. Nozzles fitted with pressure-tight seals are inserted into the drilled holes and injection is continued until the required volume has been injected. Normally the treatment of brickwork 230 mm thick will require 2 to 4 litres of fluid per metre run. The nozzles are removed and subsequent holes are similarly injected.

### Stone walls

14.3 In solid or cavity walls of conventional construction in blockwork or stone, the drilling and injection procedure is adjusted to accommodate variations in the density, porosity and structure. In each case the procedure chosen must ensure a continuous unbroken treatment along the length of the wall.

### Rubble-filled stone walls

14.4 In stone walls with a rubble-filled cavity, the two leaves are first injected using the techniques appropriate to the substrate, then:

- in walls 450 mm thick – holes in one leaf are re-drilled to the centre of the wall (into the rubble infill) and injected singly until fluid exudes from mortar joints below the injection level
- in walls of between 450 mm and 900 mm thick – holes in both walls are re-drilled to the centre of the wall and injected singly until fluid exudes from the mortar joints below the injection level.

14.5 Normally, the treatment of the rubble core of a 450 mm thick wall will require 4 to 5 litres of fluid per metre run (increased pro rata for thicker walls).

### Flint walls

14.6 In flint walls, holes are drilled into the mortar joint, either horizontally or at an angle, to the mid-point of the wall, at 75 mm intervals. Injection is carried out at 300 kPa until the required volume has been injected.

## Technical Investigations

### 15 Investigations

15.1 The manufacturing processes were examined, and the raw material specifications, formulations and quality control procedures were established.

15.2 A reassessment was made of existing data and investigations held on the system. The original conclusions remain valid.

15.3 Details were obtained of the criteria used by the Certificate holder in appointing approved contractors.

## Additional Information

The management systems of Wykamol Group have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by Garek Assured (Certificate No 01111/1104.02).

## Bibliography

- 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 EN 197-1 : 2000 *Cement — Composition, specifications and conformity criteria for common cements*
- BS EN 13139 : 2002 *Aggregates for mortar*
- BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*
- BS EN ISO 9001 : 2008 *Quality management systems — Requirements*
- Property Care Association COP09/09 *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*

## 16 Conditions

16.1 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.

16.2 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.

16.3 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.

16.4 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.

16.5 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.

## Wykamol Group's Replastering Specification

### A1 Preparation

A1.1 Wykamol Replastering Specifications are carried out by the Certificate holder's approved contractor in accordance with BS 6576 : 2005, and the Property Care Association *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*.

A1.2 Plaster affected by hygroscopic salts is removed as described in section 13.4.

A1.3 Replastering can commence after a minimum period of 14 days from installation of the remedial dpc.

A1.4 If the background is impermeable and offers little suction (eg where rising damp has occurred in the mortar joints), the joints are raked out to provide a mechanical key and/or SBR Latex bonding primer is applied to the surface and the wall is replastered immediately.

### A2 Wykamol Replastering Products

Wykamol Renovating Plaster — a premixed cement-based lightweight plaster

Integral Waterproofer No 2 — a salt-retardant additive for use in sand-cement mixes

Brunopel IWP — a salt-retardant additive for use in sand-cement mixes

Brunolene PS — a salt-retardant additive for use in sand-cement or sand-lime-cement mixes or with Wykamol Renovating Plaster.

### A3 Procedure — Wykamol Renovating Plaster

A3.1 The plaster is mixed with clean water (or a gauging solution containing Brunolene PS) in clean containers, by hand or mechanically, to a normal plastering consistency. Over-mixing is to be avoided and hand-mixing is preferably conducted in a trough using a hoe or plasterer's drag.

A3.2 The plaster is applied, generally in accordance with BS 8481 : 2006 and BS EN 13914-2 : 2005, to achieve a thickness of between 10 mm and 15 mm, and the surface is lightly scratched. The plaster is applied no lower than the level of the dpc. If necessary, a batten is used to achieve this.

A3.3 If the maximum thickness of the required backing coat is to exceed 15 mm, a scratch or dubbing-out coat is necessary to achieve a level surface. Each coat applied must not exceed 15 mm, be well scratched and allowed to dry before the application of the subsequent coat.

A3.4 Normally, Wykamol Renovating Plaster sets in seven hours.

### A4 Procedure — Other renovating plaster mixes

A4.1 Integral Waterproofer No 2 and Brunopel IWP are used in a 3:1 sand-cement mix comprising<sup>(1)</sup>:

- Portland cement — CEM I class 52,5 N to BS EN 197-1 : 2000
- aggregate — clean, sharp, washed sand, free of salt, suitably graded for plastering to BS EN 13139 : 2002
- gauging water — potable water gauged with: one part of Integral Waterproofer No 2 to 25 parts of water, or one part of Brunopel IWP to 30 parts of water.

(1) These dosing rates are appropriate for dry sand and can be adjusted if the sand is wet.

A4.2 The Brunolene PS additive is used in weaker mixes (eg 6:1 sand-cement or 6:1:1 sand-lime-cement) or with Wykamol Renovating Plaster, gauged with potable water containing one part of Brunolene PS to 30 parts of water (assuming dry sand in 6:1 or 6:1:1 mixes).

A4.3 The sand-cement-additive mix is applied at a thickness of 10 mm. After the first set of this mix is taken up, the surface must be combed or scratched to provide a mechanical key. Where necessary, a second undercoat of sand and cement is applied; the mix proportions and additive used at the same rate as for the first coat. This coat must also be combed or scratched to provide a key.

### A5 Finishing coats

After allowing the back coat to set and dry for at least 24 hours, the finishing plaster<sup>(1)</sup> is applied approximately 1.5 mm to 3 mm thickness. In very wet conditions the drying time can be longer and the finishing plaster must not be applied until it is dry.

(1) covered by a valid Agrément Certificate.

## **A6 General**

The following general information should also be observed.

A6.1 The amount of gauging water in the undercoats should be a minimum consistent with reasonable application.

A6.2 Undercoats based on gypsum must never be used in this type of application.

A6.3 It is recommended that the undercoats be scrape finished to minimise the risk of cracking.

A6.4 A strong mix is never applied over a weak mix or backing.

A6.5 Where scratch coats are to be left as a finish, a high quality wood float finish may be used. However, it is preferred to scrape the finish to a textured surface.

A6.6 Finishing plaster is not recommended if the surface is to be tiled.

## **A7 Dry-lining methods**

A7.1 In certain circumstances replastering of walls following chemical dpc insertion is not feasible, eg extremely friable wall surfaces, uneven wall profiles. Where dry lining is to be carried out, this must be in accordance with the manufacturer's recommendations. Care should be taken to ensure that gypsum adhesives are not used in 'dot and dab' applications directly onto the wall surface. Timber used as battens must be pre-treated and all cut ends re-treated on site. Ventilation must be provided behind the system until the walls have dried out to reduce the possibility of condensation within the void.

A7.2 On walls which are persistently damp due to the presence of high concentrations of hygroscopic salts, normal dry-lining methods are unsuitable. However, in such cases reinstatement can proceed in conjunction with a BBA approved ventilated dry lining system, based on a high-density polyethylene (HDPE) membrane which provides a vapour impermeable surface suitable for conventional plastering and/or dry-lining techniques.

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Page 11 of 12



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Agrément Certificate  
**02/3961**  
Product Sheet 5

## WYKAMOL CHEMICAL DAMP-PROOFING SYSTEMS

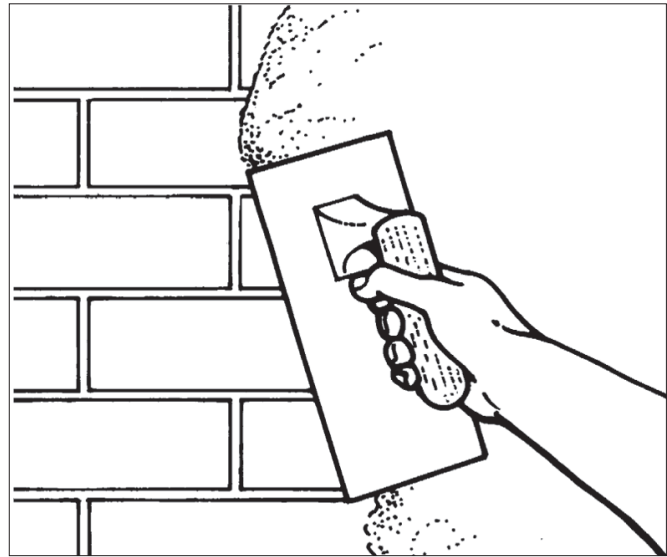
## WYKAMOL REPLASTERING SPECIFICATIONS

### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Wykamol Replastering Specifications, a range of replastering products for use on existing internal walls following the insertion of a chemical damp-proof course (dpc) system.

### 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 salt transfer** — the products will provide an effective barrier against salt transfer (see section 5).

**Durability** — the products will have a durability equivalent to traditional plastering (see section 7)

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

On behalf of the British Board of Agrément

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 2 June 2010

Originally certificated on 4 December 2002

*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](http://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, the use of Wykamol Replastering Specifications in an existing building is not controlled by the National Building Regulations.



## The Building Regulations 2000 (as amended) (England and Wales)



## The Building (Scotland) Regulations 2004 (as amended)



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

### 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: *2 Delivery and site handling (2.1 and 2.2) of this Certificate.*

# Non-regulatory Information

## NHBC Standards 2008

NHBC accepts the use of the Wykamol Replastering Specifications, when installed and used in accordance with this Certificate, in relation to *NHBC Standards, Chapter 8.2 Wall and ceiling finishes.*

# Technical Specification

## 1 Description

1.1 Wykamol Replastering Specifications are a range of replastering products comprising:

- Wykamol Renovating Plaster — a pre-mixed, cement-based, lightweight plaster containing perlite aggregate and water-repellent additives, and is the preferred replastering system where there is a likelihood of condensation
- Integral Waterproofing No 2 and Brunopel IWP — are salt-retardant additives for use in sand-cement replastering mixes
- Brunolene PS — a salt-retardant additive for use in sand-cement or sand-lime-cement replastering mixes, or with Wykamol Renovating Plaster.

1.2 All products are manufactured by controlled batch blending processes. Regular quality control checks are conducted on the final products.

## 2 Delivery and site handling

2.1 The packaging and shelf-life (when stored in cool dry conditions) are given in Table 1.

Product	Packaging	Shelf-life (months)
Wykamol Renovating Plaster	25 kg paper sacks	6
Integral Waterproofing No 2	1, 5, 25 litres	24
Brunopel IWP	0.82, 5 and 25 kg	12
Brunolene PS	1, 5, 25 litres	12

2.2 Wykamol Renovating Plaster, Integral Waterproofing No 2 and Brunopel IWP are classified as 'irritant' under *The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (CHIP4)*.

2.3 Each product's packaging bears the manufacturer's marking and application instructions, and batch code.

# Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Wykamol Replastering Specifications.

## Design Considerations

### 3 General

3.1 Wykamol Replastering Specifications are satisfactory for application to walls of all types of masonry where there has been rising damp and a remedial dpc treatment has been conducted.

3.2 Wykamol Renovating Plaster and the sand/cement/additive mixes are applied at a thickness of 10 mm using the normal procedures defined in BS EN 13914-2 : 2005, and finished using 2 mm of proprietary finishing plaster.

3.3 The plasters have good resistance to mechanical damage.

3.4 Normal methods for fixing and chasing can be used, but the surface should be restored using Wykamol Renovating Plaster or sand/cement/additive mix.

### 4 Practicability of installation

Following the installation of a dpc system, replastering is necessary to prevent damage to subsequent redecoration. To avoid split responsibility, this should be conducted by the dpc system installer or his approved agent.

### 5 Resistance to salt transfer

Where rising damp has created a high salt content in walls and an effective chemical dpc remedial treatment has been conducted, and where no other source of water ingress exists, Wykamol Replastering Specifications will provide an effective barrier against salt transfer.

### 6 Maintenance

As the product is always covered with a suitable finishing coat (see section 9.8), maintenance is not normally required but any accidental damage is repaired by re-applying the product.

### 7 Durability

The durability of Wykamol Replastering Specifications is equivalent to traditional plastering to BS 8481 : 2006 and BS EN 13914-2 : 2005.

## Installation

### 8 General

8.1 Wykamol Replastering Specifications are carried out by the Certificate holder's approved contractors in accordance with BS 6576 : 2005 and by the Certificate holder's approved contractor.

8.2 A remedial chemical damp-proofing treatment (see the appropriate Product Sheet) is conducted in accordance with BS 6576 : 2005.

8.3 The standard of installation must comply with BS 8000-10 : 1995, BS 8481 : 2006 and BS EN 13914-2 : 2005.

8.4 Replastering can commence after a minimum period of 14 days from installation of the remedial dpc.

8.5 If the background is impermeable and offers little suction (eg where rising damp has occurred in the mortar joints) the joints are raked out to provide a mechanical key and/or SBR Latex bonding primer is applied to the surface and the wall is replastered immediately.

### 9 Procedure

#### Wykamol Renovating Plaster

9.1 The plaster is mixed with clean water (or a gauging solution containing Brunolene PS) in clean containers, by hand or mechanically, to a normal plastering consistency. Over-mixing is to be avoided, and hand-mixing is preferably conducted in a trough using a hoe or plasterer's drag.

9.2 The plaster is applied, generally in accordance with, BS 8481 : 2006 and BS EN 13914-2 : 2005 to achieve a thickness of between 10 mm and 15 mm, and the surface is lightly scratched. The plaster is applied no lower than the level of the dpc. If necessary a batten is used to achieve this.

9.3 If the maximum thickness of the required backing coat is to exceed 15 mm, a scratch or dubbing-out coat is necessary to achieve a level surface. Each coat must not exceed 15 mm and be well scratched, and allowed to dry before the application of the subsequent coat.

9.4 Normally, Wykamol Renovating Plaster sets in seven hours.

## Additives

9.5 Integral Waterproofer No 2, and Brunopel IWP are used in a 3:1 sand-cement mix comprising<sup>(1)</sup>:

- Portland cement — CEM I class 52,5 N to BS EN 197-1 : 2000
- aggregate — clean, sharp, washed sand, free of salt, suitably graded for plastering to BS EN 13139 : 2002
- gauging water — potable water gauged with: one part of Integral Waterproofer No 2 to 25 parts of water or one part of Brunopel IWP to 30 parts of water.

(1) These dosing rates are appropriate for dry sand and should be adjusted if the sand is wet.

9.6 Brunolene PS additive is used in weaker mixes (eg 6:1 sand-cement or 6:1:1 sand-lime-cement) or with Wykamol Renovating Plaster, gauged with potable water containing one part of Brunolene PS to 30 parts of water (assuming dry sand in 6:1 or 6:1:1 mixes).

9.7 The sand-cement-additive mix is applied at a thickness of 10 mm. After the first set of this mix is taken up, the surface must be combed or scratched to provide a mechanical key. Where necessary, a second undercoat of sand and cement is applied; the mix proportions and additive used at the same rate as for the first coat. This coat must also be combed or scratched to provide a key.

## Finishing coats

9.8 After allowing the back coat to set and dry for at least 24 hours, the finishing plaster<sup>(1)</sup> should be applied approximately 1.5 mm to 3 mm thickness. In very wet conditions the drying time may be longer and the finishing plaster must not be applied until it is dry.

(1) covered by a valid BBA Certificate

## Precautions

9.9 The following general information should also be observed:

- the amount of gauging water in the undercoats should be a minimum consistent with reasonable application
- undercoats based on gypsum must never be used in this type of application
- it is recommended that the undercoats be scrape finished to minimise the risk of cracking
- a strong mix is never applied over a weak mix or backing
- where scratch coats are to be left as a finish, a high quality wood float finish may be used. However, it is preferred to scrape the finish to a textured surface
- finishing plaster is not recommended if the surface is to be tiled.

## Dry-lining methods

9.10 In certain circumstances replastering of walls following chemical dpc insertion is not feasible, eg extremely friable wall surfaces, uneven wall profiles. Where dry lining is to be carried out this must be in accordance with the manufacturer's recommendations. Care should be taken to ensure that gypsum adhesives are not used in 'dot and dab' applications directly onto the wall surface. Timber used as battens must be pre-treated and all cut ends re-treated on site. Ventilation must be provided behind the system until the walls have dried out, to reduce the possibility of condensation within the void.

9.11 On walls which are persistently damp due to the presence of high concentrations of hygroscopic salts, normal dry-lining methods are unsuitable. However, in such cases reinstatement can proceed in conjunction with a BBA-approved ventilated dry lining system, based on a high-density polyethylene (HDPE) membrane which provides a vapour impermeable surface suitable for conventional plastering and/or dry-lining techniques.

# Technical Investigations

## 10 Tests

Tests were conducted to Wykamol Renovating Plaster to determine:

- resistance to background water
- effect of salts.

## 11 Investigations

A re-examination was made of existing data and investigations on which previous Certificates were based. The conclusions drawn from the original data remain valid.

# Additional Information

The management systems of Wykamol Group have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by Garek Assured (Certificate No 0111/1104.02).

## Bibliography

- BS 6576 : 2005 *Code of practice for diagnosis of rising damp in walls of buildings and installation of chemical damp-proof courses*
- BS 8000-10 : 1995 *Workmanship on building sites — Code of practice for plastering and rendering*
- BS 8481 : 2006 *Design, preparation and application of internal gypsum, cement, cement and lime plastering systems — Specification*
- BS EN 197-1 : 2000 *Cement — Composition, specifications and conformity criteria for common cements*
- BS EN 13139 : 2002 *Aggregates for mortar*
- BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*
- BS EN ISO 9001 : 2008 *Quality management systems — Requirements*

## 12 Conditions

### 12.1 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
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12.2 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.

12.3 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:

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- 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.

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- 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.

12.5 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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Agrément Certificate  
**02/3961**  
Product Sheet 6

## WYKAMOL CHEMICAL DAMP-PROOFING SYSTEMS

### HYDRADRY

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to HydraDRY, a cementitious waterproofing compound for use as internal waterproofing against penetrating damp for walls of brickwork, blockwork or stone below the level of the installed damp-proof course (dpc).

#### 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 penetration** — when used in conjunction with a Wykamol dpc system, the product resists the penetration of water through the wall below the level of the installed dpc system (see section 5).

**Durability** — when protected from damage, the product will provide an effective barrier against the transmission of liquid water into the building for the life of the dpc system with which it is installed (see section 7).



The BBA has awarded this Agrément Certificate to the company named above for the product described herein. The 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

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 2 June 2010

Originally certified on 4 December 2002

*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](http://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

## The Building Regulations 2000 (as amended) (England and Wales)



In the opinion of the BBA, the use of the HydraDRY in an existing building is not subject to these Regulations, but action to satisfy Requirement C2(a) and Regulation 7 may be necessary for a 'Material change of use' as defined in Regulation 5(a).

Requirement:	C2(a)	Resistance to moisture
Comment:		The product adequately resists the passage of moisture. See section 5 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 7 and the <i>Installation</i> part of this Certificate.

## The Building (Scotland) Regulations 2004 (as amended)



In the opinion of the BBA, the use of the HydraDRY, in an existing building is not controlled by these Regulations, but action to satisfy the Regulation and related Mandatory Standards below may be necessary for a 'Conversion' as defined in Regulation 4 of these Regulations.

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction satisfying this Regulation. See section 7 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards — construction
Standard:	3.3	Flooding and ground water
Standard:	3.4	Moisture from the ground
Standard:	3.10	Precipitation
Comment:		The product adequately resists the passage of moisture and can contribute to satisfying these Standards, with reference to clauses 3.3.2 <sup>(1)(2)</sup> , 3.4.1 <sup>(1)(2)</sup> , 3.4.5 <sup>(1)(2)</sup> , 3.4.7 <sup>(1)(2)</sup> and 3.10.1 <sup>(1)(2)</sup> . See section 5 of this Certificate.
Regulation:	12	Building standards — conversions
Comment:		All comments given for this system under Regulation 9, also apply to this Regulation, with reference to clause 0.12.1 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

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



In the opinion of the BBA, the use of the HydraDRY in an existing building is not controlled by these Regulations, but action to satisfy Regulations B2 and C4(a) may be necessary for a 'Material change of use' under Regulation A9.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable and water-based, and does not release solvent for an unreasonable period. See section 7 and the <i>Installation</i> part of this Certificate.
Regulation:	C4(a)	Resistance to ground moisture and weather
Comment:		The product adequately resists the passage of moisture. See section 5 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 2 *Delivery and site handling* (2.1 to 2.3) of this Certificate.

# Non-regulatory Information

## NHBC Standards 2008

NHBC accepts the use of HydraDRY, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Section 5.1 *Substructure and ground floors*.

# Technical Specification

## 1 Description

HydraDRY is a cementitious compound containing cement, graded sands and chemical additives, which is mixed with water on site and applied as a slurry by brush and/or trowel. It is manufactured by a continuous batch blending process and regular quality control checks are conducted on the final product.

## 2 Delivery and site handling

2.1 The product is supplied in 25 kg polypropylene sacks. Each container carries a label bearing the product name, company address and gross weight.

2.2 The product is classified as 'irritant' under *The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009* (CHIP4), and conventional precautions for cement are followed during handling, transport and storage.

2.3 The product is cement-based and must be stored in dry conditions.

# Assessment and Technical Investigations

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

## Design Considerations

### 3 General

HydraDRY is satisfactory for use in conjunction with a Wykamol dpc system, as internal waterproofing against penetrating water for walls of brickwork, blockwork or stone below the level of the installed dpc.

### 4 Practicability of installation

The product should only be installed by installers who have been trained and approved by the Certificate holder.

### 5 Resistance to water penetration



The product resists the penetration of water through the wall below the level of an installed Wykamol dpc system.

### 6 Maintenance

Maintenance is not required for this product.

### 7 Durability



When the product is protected from damage (as described in section 9.7) the product will provide an effective barrier against the transmission of liquid water into the building for the life of the dpc with which it is installed.

## Installation

### 8 General

8.1 HydraDRY is applied to brickwork, blockwork or stone walls (with a sand-cement or sand-lime-cement mortar).

8.2 All joints must be flush pointed, defects made good, and irregular surfaces must be given a trowelled or floated finish with a 3:1 sand-cement mix.

8.3 All surfaces must be free from existing coatings or contamination (eg, paint, laitance, dirt).

8.4 If the surface is dry, it must be thoroughly wetted but free from surface water prior to HydraDRY being applied.

### 9 Procedure

9.1 HydraDRY is applied at temperatures of 5°C and above.

9.2 The product is mixed with potable water in clean containers in the ratio 6.5 to 7 litres : 25 kg to form a slurry. Care must be taken to avoid the formation of lumps.

9.3 The product is applied to the substrate in at least two coats, to achieve a minimum thickness of 2 mm (4 kg·m<sup>-2</sup>).

9.4 The first coat of the product is applied by brush and vigorously worked into the surface. Application should be conducted so that a flowing edge is maintained. If this is not possible, when application is continued the previously applied coat must be overlapped by at least 250 mm. The second coat (and subsequent coats) may be applied by brush or trowel, either after the previous coat's initial set (in normal circumstances, after a minimum period of three hours) or after the previous coat has hardened fully.

9.5 Each coat is examined for damage or areas of incomplete coverage before the next coat is applied.

9.6 After the product is mixed, it must be used within 30 minutes.

9.7 Once the final coating has hardened fully, a coat of plaster is applied to protect it from damage in service. Wykamol Renovating Plaster is recommended, as this will reduce the risk of condensation on the surface. Alternatively, any of the sand-cement or sand-lime-cement replastering specifications described in the appendix are suitable. Under no circumstances must gypsum-based products be used in direct contact with HydraDry.

## Technical Investigations

### 10 Investigations

10.1 Tests were conducted to determine the resistance to water pressure, applied through the substrate to a HydraDRY coating on mortar and flush-pointed brickwork.

10.2 A visit was made to a site in progress to assess the practicability of installation.

10.3 A survey of known users was conducted to assess the performance of the product in use which was reported.

## Additional Information

The management systems of Wykamol Group have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by Garek Assured (Certificate No 01111/1104.02).

## Bibliography

- 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 EN 197-1 : 2000 *Cement — Composition, specifications and conformity criteria for common cements*
- BS EN 13139 : 2002 *Aggregates for mortar*
- BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*
- BS EN ISO 9001 : 2008 *Quality management systems — Requirements*
- Property Care Association COP09/09 *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*

## 11 Conditions

11.1 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.

11.2 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.

11.3 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.

11.4 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.

11.5 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.

## Wykamol Group's Replastering Specification

### A1 Preparation

A1.1 Wykamol Replastering Specifications are carried out by the Certificate holder's approved contractor in accordance with BS 6576 : 2005, and the Property Care Association *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*.

A1.2 Plaster affected by hygroscopic salts is removed.

A1.3 Replastering can commence after a minimum period of 14 days from installation of the remedial dpc.

A1.4 If the background is impermeable and offers little suction (eg where rising damp has occurred in the mortar joints), the joints are raked out to provide a mechanical key and/or SBR Latex bonding primer is applied to the surface and the wall is replastered immediately.

### A2 Wykamol Replastering Products

Wykamol Renovating Plaster — a premixed cement-based lightweight plaster

Integral Waterproofer No 2 — a salt-retardant additive for use in sand-cement mixes

Brunopel IWP — a salt-retardant additive for use in sand-cement mixes

Brunolene PS — a salt-retardant additive for use in sand-cement or sand-lime-cement mixes or with Wykamol Renovating Plaster.

### A3 Procedure — Wykamol Renovating Plaster

A3.1 The plaster is mixed with clean water (or a gauging solution containing Brunolene PS) in clean containers, by hand or mechanically, to a normal plastering consistency. Over-mixing is to be avoided and hand-mixing is preferably conducted in a trough using a hoe or plasterer's drag.

A3.2 The plaster is applied, generally in accordance with BS 8481 : 2006 and BS EN 13914-2 : 2005, to achieve a thickness of between 10 mm and 15 mm, and the surface is lightly scratched. The plaster is applied no lower than the level of the dpc. If necessary, a batten is used to achieve this.

A3.3 If the maximum thickness of the required backing coat is to exceed 15 mm, a scratch or dubbing-out coat is necessary to achieve a level surface. Each coat applied must not exceed 15 mm, be well scratched and allowed to dry before the application of the subsequent coat.

A3.4 Normally, Wykamol Renovating Plaster sets in seven hours.

### A4 Procedure — Other renovating plaster mixes

A4.1 Integral Waterproofer No 2 and Brunopel IWP are used in a 3:1 sand-cement mix comprising<sup>(1)</sup>:

- Portland cement — CEM I class 52,5 N to BS EN 197-1 : 2000
- aggregate — clean, sharp, washed sand, free of salt, suitably graded for plastering to BS EN 13139 : 2002
- gauging water — potable water gauged with: one part of Integral Waterproofer No 2 to 25 parts of water, or one part of Brunopel IWP to 30 parts of water.

(1) These dosing rates are appropriate for dry sand and can be adjusted if the sand is wet.

A4.2 The Brunolene PS additive is used in weaker mixes (eg 6:1 sand-cement or 6:1:1 sand-lime-cement) or with Wykamol Renovating Plaster, gauged with potable water containing one part of Brunolene PS to 30 parts of water (assuming dry sand in 6:1 or 6:1:1 mixes).

A4.3 The sand-cement-additive mix is applied at a thickness of 10 mm. After the first set of this mix is taken up, the surface must be combed or scratched to provide a mechanical key. Where necessary, a second undercoat of sand and cement is applied; the mix proportions and additive used at the same rate as for the first coat. This coat must also be combed or scratched to provide a key.

### A5 Finishing coats

After allowing the back coat to set and dry for at least 24 hours, the finishing plaster<sup>(1)</sup> is applied approximately 1.5 mm to 3 mm thickness. In very wet conditions the drying time can be longer and the finishing plaster must not be applied until it is dry.

(1) covered by a valid Agrément Certificate.

## **A6 General**

The following general information should also be observed.

A6.1 The amount of gauging water in the undercoats should be a minimum consistent with reasonable application.

A6.2 Undercoats based on gypsum must never be used in this type of application.

A6.3 It is recommended that the undercoats be scrape finished to minimise the risk of cracking.

A6.4 A strong mix is never applied over a weak mix or backing.

A6.5 Where scratch coats are to be left as a finish, a high quality wood float finish may be used. However, it is preferred to scrape the finish to a textured surface.

A6.6 Finishing plaster is not recommended if the surface is to be tiled.

## **A7 Dry-lining methods**

A7.1 In certain circumstances replastering of walls following chemical dpc insertion is not feasible, eg extremely friable wall surfaces, uneven wall profiles. Where dry lining is to be carried out, this must be in accordance with the manufacturer's recommendations. Care should be taken to ensure that gypsum adhesives are not used in 'dot and dab' applications directly onto the wall surface. Timber used as battens must be pre-treated and all cut ends re-treated on site. Ventilation must be provided behind the system until the walls have dried out to reduce the possibility of condensation within the void.

A7.2 On walls which are persistently damp due to the presence of high concentrations of hygroscopic salts, normal dry-lining methods are unsuitable. However, in such cases reinstatement can proceed in conjunction with a BBA approved ventilated dry lining system, based on a high-density polyethylene (HDPE) membrane which provides a vapour impermeable surface suitable for conventional plastering and/or dry-lining techniques.

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Agrément Certificate  
**02/3961**  
Product Sheet 7

## WYKAMOL CHEMICAL DAMP-PROOFING SYSTEMS

### ULTRACURE

#### PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to the Ultracure, a silane/siloxane emulsion cream for forming a damp-proof course (dpc) in existing walls.

#### 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

**Effectiveness against rising damp** — when injected into suitable substrates in accordance with BS 6576 : 2005, the product forms an effective barrier against rising damp in existing walls (see section 5).

**Drying time** — after treatment, a 230 mm solid brick wall previously affected by rising damp should normally dry out in 6 to 12 months (see section 6).

**Durability** — the product will remain effective against rising damp for at least 20 years (see section 8).



The BBA has awarded this Agrément Certificate to the company named above for the product described herein. The 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

Simon Wroe  
Head of Approvals — Materials

Greg Cooper  
Chief Executive

Date of First issue: 2 June 2010

Originally certified on 4 December 2002

*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](http://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

## The Building Regulations 2000 (as amended) (England and Wales)



In the opinion of the BBA, the use of the Ultracure in an existing building is not subject to these Regulations, but action to satisfy Requirement C2(a) and Regulation 7 may be necessary for a 'Material change of use' as defined in Regulation 5(a).

Requirement:	C2(a)	Resistance to moisture
Comment:		The product satisfies the BBA rising damp test and adequately resists the passage of moisture. See section 5 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 8 and the <i>Installation</i> part of this Certificate.

## The Building (Scotland) Regulations 2004 (as amended)



In the opinion of the BBA, the use of the Ultracure, in an existing building is not controlled by these Regulations, but action to satisfy the Regulation and related Mandatory Standards below may be necessary for a 'Conversion' as defined in Regulation 4 of these Regulations.

Regulation:	8(1)	Fitness and durability of materials and workmanship
Comment:		The product can contribute to a construction satisfying this Regulation. See section 8 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.3	Flooding and ground water
Standard:	3.4	Moisture from the ground
Comment:		The product satisfies the BBA rising damp test and adequately resists the passage of moisture and can contribute to satisfying these Standards, with reference to clauses 3.3.1 <sup>(1)(2)</sup> , 3.4.1 <sup>(1)(2)</sup> and 3.4.5 <sup>(1)(2)</sup> . See section 5 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 <sup>(1)(2)</sup> and Schedule 6 <sup>(1)(2)</sup> . (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).

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



In the opinion of the BBA, the use of the Ultracure in an existing building is not controlled by these Regulations, but action to satisfy Regulations B2 and C4(a) may be necessary for a 'Material change of use' under Regulation A9.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable and water-based, and does not release solvent for an unreasonable period. See section 8 and the <i>Installation</i> part of this Certificate.
Regulation:	C4(a)	Resistance to ground moisture and weather
Comment:		The product satisfies the BBA rising damp test and adequately resists the passage of moisture. See section 5 of this Certificate.

## Construction (Design and Management) Regulations 2007

## Construction (Design and Management) Regulations (Northern Ireland) 2007

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 2 *Delivery and site handling* (2.1 to 2.3) of this Certificate.

# Non-regulatory Information

## NHBC Standards 2008

NHBC accepts the use of Ultracure, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Section 5.1 *Substructure and ground floors*.

# Technical Specification

## 1 Description

1.1 Ultracure is a ready-to-use silane/siloxane emulsion cream for insertion by a low-pressure displacement pump or cartridge gun, which is manufactured by a controlled batch blending process. Regular quality control checks are conducted on the final product.

1.2 The installation process involves delivering a set amount of the product into a series of holes drilled into the mortar course and the subsequent replastering.

## 2 Delivery and site handling

2.1 The product is supplied in 3 litre buckets and 380 ml and 1 litre cartridges.

The product should be stored in a cool, dry place and protected from frost.

2.3 The product is not classified under *The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009* (CHIP4).

# Assessment and Technical Investigations

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

## Design Considerations

### 3 General

3.1 Ultracure is used in accordance with BS 6576 : 2005 in existing:

- solid walls of brickwork, blockwork or natural stone (including flint), up to 600 mm thick
- conventional cavity walls, or
- walls of rubble-filled construction of any thickness.

3.2 The product provides a barrier against rising damp where there is no dpc or where the existing dpc has failed.

3.3 Replastering is necessary to retain salts in the body of the wall to prevent damage to subsequent redecoration. This must be carried out in accordance with the Wykamol Replastering Specifications (see Appendix).

### 4 Practicability of installation

The product should only be installed by installers who have been trained and approved by the Certificate holder.

### 5 Effectiveness against rising damp



When installed in the substrates defined in section 3.1, in accordance with BS 6576 : 2005, the product forms an effective barrier against rising damp.

### 6 Drying time

After treatment, a 230 mm thick solid brick wall, previously affected by rising damp, should normally dry in 6 to 12 months provided normal heating is used during the winter months. A thicker wall may take longer. Where hygroscopic salts are present, the wall may not dry completely but the replastering system will prevent damage to internal decorations.

### 7 Maintenance

Maintenance is not required for this product.

### 8 Durability



Excluding use in new repair work (where highly-alkaline mortars are present), the process is expected to remain effective for at least 20 years.

## Installation

### 9 General

9.1 Installation of Ultracure is carried out in accordance with BS 6576 : 2005, *The Property Care Association Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls* and by the Certificate holder's approved contractor.

9.2 Replastering is necessary to prevent damage to subsequent redecoration. To avoid split responsibility, this should be conducted by the installer or his approved agent.

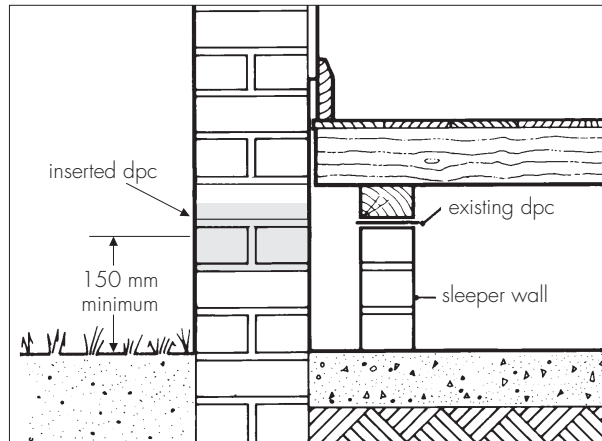
## 10 Precautions

Ultracure is water-based and present no flammability hazards.

## 11 Timber floor — inspection, preparation and repair

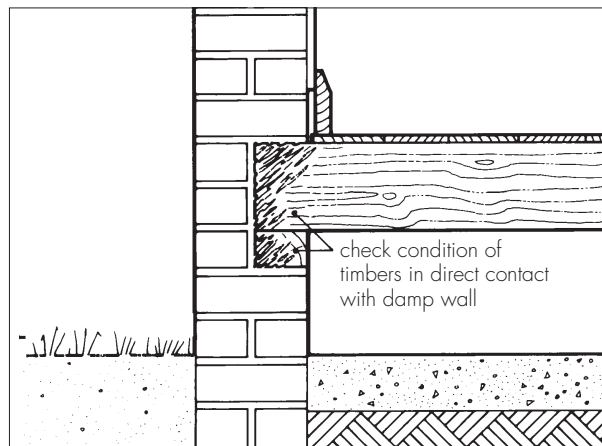
11.1 Where a suspended timber floor is independently supported on sleeper walls, with an effective dpc and showing no signs of dampness, these need not be treated (see Figure 1).

Figure 1 Suspended timber floor on sleeper wall



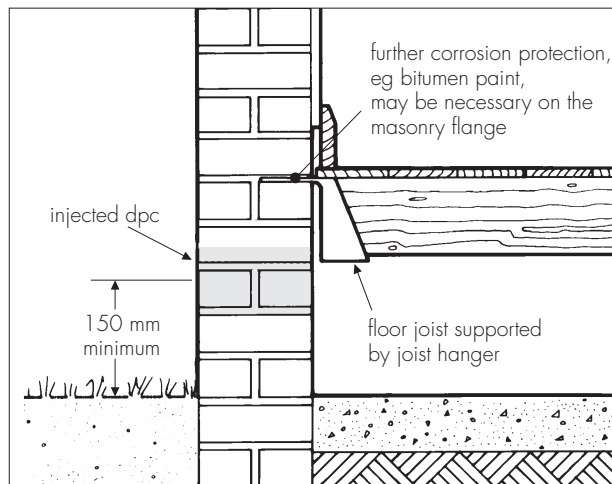
11.2 Where a suspended timber floor is supported on joists and/or a wall plate bearing on, or embedded in the wall, there is a possibility of decay, particularly where concealed timbers are in contact with the damp wall. The condition of these timbers should be ascertained and remedial action taken if necessary (see Figure 2).

Figure 2 Check embedded timber for decay



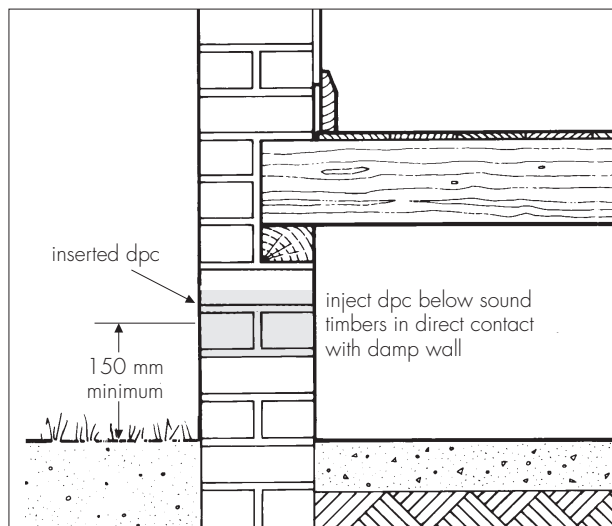
11.3 If damage is limited to the joist ends, the floors may be re-formed, using sleeper walls or joist-hangers, to isolate the timbers from the damp wall (see Figure 3).

Figure 3 Isolation of timber joists from damp wall



11.4 If the timbers are sound, the existing floor may be retained provided the injected dpc is formed below the timber joists and/or wall plate (see Figure 4).

Figure 4 Inject dpc below wall plate



## 12 Preparation

12.1 The course to be injected is chosen so that the position of the horizontal dpc complies, as far as is practicable, with the recommendations of BS 6576 : 2005, Clause 8.3 (see section 11.4 of this Certificate).

12.2 Internal walls on solid floors are treated as close to the floor as possible.

12.3 Complementary vertical dpc's are positioned, where necessary, to isolate treated walls from the effects of rising damp in adjoining walls or to maintain continuity between horizontal dpc's at different levels.

12.4 Internal plastering affected by hygroscopic salts is removed from the area to be treated to a height of 460 mm above the maximum level of the rising damp. Internal skirtings and flooring are also removed, as necessary, to expose the area for treatment. Externally, the proposed dpc line is exposed, where necessary, by removing any facing material.

## 13 Procedure

13.1 Untreated walls are isolated by the injection of a vertical dpc throughout the thickness of the wall.

13.2 Particular care is taken to avoid bridging the dpc, either internally or externally. Where external rendering has been removed, it is restored, ending in a bellcasting above the injected dpc.

13.3 The original survey may have identified other possible causes of dampness, and measures to rectify these are taken as necessary.

13.4 Holes 12 mm in diameter are drilled at intervals of 120 mm or less along the selected mortar course, to depths for various wall thicknesses as shown in Table 1.

*Table 1 Depth of hole required/application rate*

	Wall thickness (mm) <sup>(1)</sup>			
	115	230	345	460
Drill hole depth (mm)	100	210	320	430
Application rate per 10 m wall length (litres) <sup>(2)</sup>	0.9	1.9	2.9	3.9

(1) For thicker walls the depth of hole should be to within 40 mm of the opposite face.

(2) Application rates for rubble, porous or highly-absorbent masonry may vary.

13.5 Solid walls of brick or stone should be drilled/treated from one side only in a single operation. The selected mortar course is drilled at the prescribed centres to the appropriate depth, (see Table 1). Where this is not possible advice should be sought from the Certificate holder.

13.6 For preference, cavity walls should be treated from both sides but, if the thickness of the individual leaves permits, may be treated from one side. When undertaking treatment from one side, the drill must pass completely through the selected mortar course, then across the cavity and to a depth of 100 mm in the other leaf. The cavity must be clear before treatment.

13.7 If possible, in random stone and rubble infill walls, the mortar course is followed at the appropriate selected level, or drillings may be made into porous stone. Where the variable thickness of stone walls and the possibility of rubble infill dropping and blocking injection holes causes difficulties, it may be necessary to drill to 50% of the wall thickness, from both sides at a corresponding height. Alternatively, additional holes are drilled adjacent to obstructed holes to ensure that an adequate volume of the product is introduced to the wall.

13.8 The injection process consists of loading the product into the applicator gun or low-pressure pump and inserting the gun delivery tube into the full length of the predrilled hole. Each hole is backfilled fully with the product to within 10 mm of the surface by slowly squeezing the gun trigger. When treating cavity walls from one side it is essential that the holes in each leaf are filled.

13.9 Holes in the external wall surfaces are plugged with sand/cement mortar coloured to match the existing wall surface or with plastic plugs.

13.10 The treated walls are left for a period of at least 14 days to allow initial drying out. Internal plastering is applied in accordance with the Appendix.

13.11 The original survey may have identified other possible causes of dampness, and measures to rectify these are taken as necessary.

## Technical Investigations

The following is a summary of the technical investigations carried out on Ultracure.

### 14 Tests

Tests were carried out by the BBA to determine:

- effectiveness against rising damp, generally to MOAT No 39 : 1988, Method 4.3.1.4
- total and active solids content to a BWVDA Damp-proofing DP4, Method 2.1
- specific gravity to BS 3900-A19 : 1998
- substantivity to MOAT No 39, Method 4.3.2
- storage stability.

### 15 Investigations

15.1 The manufacturing process was examined, and the raw material specifications, formulation and quality control procedures were established.

15.2 Existing data on the effectiveness of silicone-based products as a chemical dpc were examined.

15.3 Existing data on the effectiveness and durability of similar materials used as external surface water repellents were examined and an assessment was made of the durability of the injection material.

15.4 A visit was made to a site in progress to assess the practicability of installation.

15.5 A user-survey of owners of treated sites was carried out to assess the product's performance in use.

15.6 Assessments were made of the presence of odour and the materials available for replastering.

## Additional Information

The management systems of Wykamol Group have been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by Garek Assured (Certificate No 0111/1104.02).

## Bibliography

- BS 3900-A19 : 1998 *Methods of test for paints — Determination of density by the pycnometer method*
- 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 EN 197-1 : 2000 *Cement — Composition, specifications and conformity criteria for common cements*
- BS EN 13139 : 2002 *Aggregates for mortar*
- BS EN 13914-2 : 2005 *Design, preparation and application of external rendering and internal plastering — Design considerations and essential principles for internal plastering*
- BWPDA DP4 *Methods of analysis for Damp-proof Course Fluids*
- MOAT No 39 : 1988 *The assessment of damp-proof course systems for existing buildings*
- Property Care Association COP09/09 *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*

## 16 Conditions

16.1 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.

16.2 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.

16.3 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.

16.4 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.

16.5 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.

## Wykamol Group's Replastering Specification

### A1 Preparation

A1.1 Wykamol Replastering Specifications are carried out by the Certificate holder's approved contractor in accordance with BS 6576 : 2005, and the Property Care Association *Code of Practice for Installation of Remedial Damp-proof Courses in Masonry Walls*.

A1.2 Plaster affected by hygroscopic salts is removed as described in section 12.4.

A1.3 Replastering can commence after a minimum period of 14 days from installation of the remedial dpc.

A1.4 If the background is impermeable and offers little suction (eg where rising damp has occurred in the mortar joints), the joints are raked out to provide a mechanical key and/or SBR Latex bonding primer is applied to the surface and the wall is replastered immediately.

### A2 Wykamol Replastering Products

Wykamol Renovating Plaster — a premixed cement-based lightweight plaster

Integral Waterproofer No 2 — a salt-retardant additive for use in sand-cement mixes

Brunopel IWP — a salt-retardant additive for use in sand-cement mixes

Brunolene PS — a salt-retardant additive for use in sand-cement or sand-lime-cement mixes or with Wykamol Renovating Plaster.

### A3 Procedure — Wykamol Renovating Plaster

A3.1 The plaster is mixed with clean water (or a gauging solution containing Brunolene PS) in clean containers, by hand or mechanically, to a normal plastering consistency. Over-mixing is to be avoided and hand-mixing is preferably conducted in a trough using a hoe or plasterer's drag.

A3.2 The plaster is applied, generally in accordance with BS 8481 : 2006 and BS EN 13914-2 : 2005, to achieve a thickness of between 10 mm and 15 mm, and the surface is lightly scratched. The plaster is applied no lower than the level of the dpc. If necessary, a batten is used to achieve this.

A3.3 If the maximum thickness of the required backing coat is to exceed 15 mm, a scratch or dubbing-out coat is necessary to achieve a level surface. Each coat applied must not exceed 15 mm, be well scratched and allowed to dry before the application of the subsequent coat.

A3.4 Normally, Wykamol Renovating Plaster sets in seven hours.

### A4 Procedure — Other renovating plaster mixes

A4.1 Integral Waterproofer No 2 and Brunopel IWP are used in a 3:1 sand-cement mix comprising<sup>(1)</sup>:

- Portland cement — CEM I class 52,5 N to BS EN 197-1 : 2000
- aggregate — clean, sharp, washed sand, free of salt, suitably graded for plastering to BS EN 13139 : 2002
- gauging water — potable water gauged with: one part of Integral Waterproofer No 2 to 25 parts of water, or one part of Brunopel IWP to 30 parts of water.

(1) These dosing rates are appropriate for dry sand and can be adjusted if the sand is wet.

A4.2 The Brunolene PS additive is used in weaker mixes (eg 6:1 sand-cement or 6:1:1 sand-lime-cement) or with Wykamol Renovating Plaster, gauged with potable water containing one part of Brunolene PS to 30 parts of water (assuming dry sand in 6:1 or 6:1:1 mixes).

A4.3 The sand-cement-additive mix is applied at a thickness of 10 mm. After the first set of this mix is taken up, the surface must be combed or scratched to provide a mechanical key. Where necessary, a second undercoat of sand and cement is applied; the mix proportions and additive used at the same rate as for the first coat. This coat must also be combed or scratched to provide a key.

### A5 Finishing coats

After allowing the back coat to set and dry for at least 24 hours, the finishing plaster<sup>(1)</sup> is applied approximately 1.5 mm to 3 mm thickness. In very wet conditions the drying time can be longer and the finishing plaster must not be applied until it is dry.

(1) covered by a valid Agrément Certificate.

## **A6 General**

The following general information should also be observed.

A6.1 The amount of gauging water in the undercoats should be a minimum consistent with reasonable application.

A6.2 Undercoats based on gypsum must never be used in this type of application.

A6.3 It is recommended that the undercoats be scrape finished to minimise the risk of cracking.

A6.4 A strong mix is never applied over a weak mix or backing.

A6.5 Where scratch coats are to be left as a finish, a high quality wood float finish may be used. However, it is preferred to scrape the finish to a textured surface.

A6.6 Finishing plaster is not recommended if the surface is to be tiled.

## **A7 Dry-lining methods**

A7.1 In certain circumstances replastering of walls following chemical dpc insertion is not feasible, eg extremely friable wall surfaces, uneven wall profiles. Where dry lining is to be carried out, this must be in accordance with the manufacturer's recommendations. Care should be taken to ensure that gypsum adhesives are not used in 'dot and dab' applications directly onto the wall surface. Timber used as battens must be pre-treated and all cut ends re-treated on site. Ventilation must be provided behind the system until the walls have dried out to reduce the possibility of condensation within the void.

A7.2 On walls which are persistently damp due to the presence of high concentrations of hygroscopic salts, normal dry-lining methods are unsuitable. However, in such cases reinstatement can proceed in conjunction with a BBA approved ventilated dry lining system, based on a high-density polyethylene (HDPE) membrane which provides a vapour impermeable surface suitable for conventional plastering and/or dry-lining techniques.

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