Wykamol Group
Unit 3, Boran Court
Network 65 Business Park
Hapton, Burnley
Lancashire BB11 5TH
Tel: 0845 400 6666 Fax: 0845 400 3333
e-mail: sales@wykamol.com
website: www.wykamol.com

BBA APPROVAL INSPECTION TESTING CERTIFICATION
TECHNICAL APPROVALS FOR CONSTRUCTION

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

Date of First issue: 2 June 2010
Originally certificated on 4 December 2002

Simon Wroe
Head of Approvals — Materials

Greg Cooper
Chief Executive

The BBA is a UKAS accredited certification body — Number 113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

British Board of Agrément
Bucknalls Lane
Garston, Watford
Herts WD25 9BA
tel: 01923 665300
fax: 01923 665301
e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk
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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 *Installation* 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 *Installation* 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[1][2], 3.4.1[1][2] and 3.4.5[1][2]. 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[1][2] and Schedule 6[1][2].

(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 *Installation* 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.

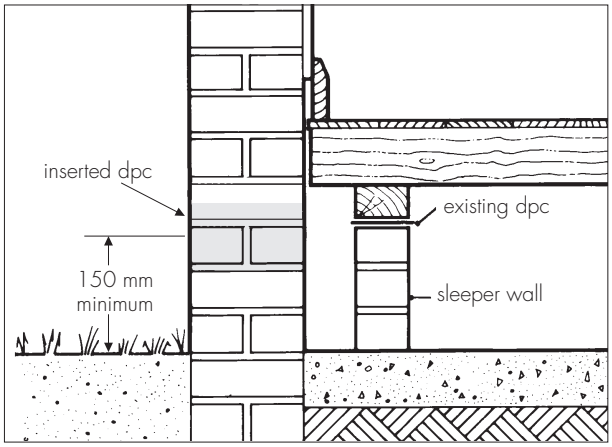
11 Precautions

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

12 Timber floor — inspection, preparation and repair

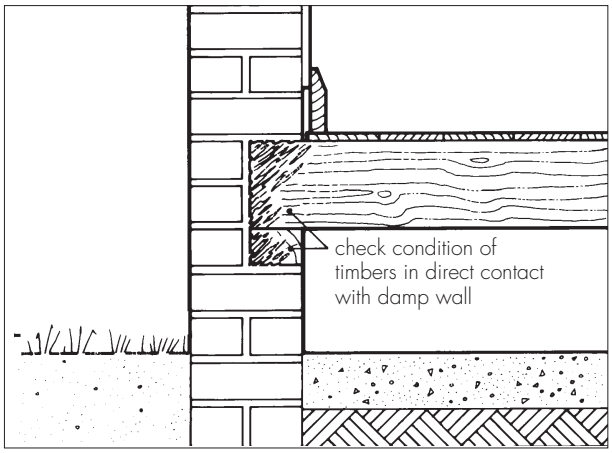
12.1 Where a suspended timber floor is independently supported on sleeper walls, with an effective dpc and showing no signs of dampness, these need not be treated (see Figure 1).

Figure 1 Suspended timber floor on sleeper wall



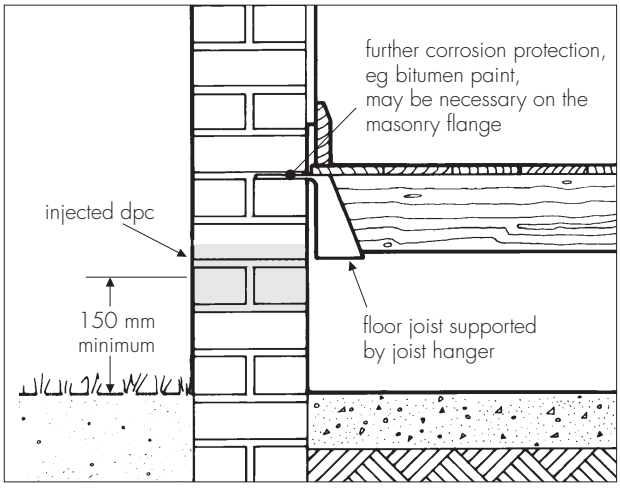
12.2 Where a suspended timber floor is supported on joists and/or a wall plate bearing on, or embedded in the wall, there is a possibility of decay, particularly where concealed timbers are in contact with the damp wall. The condition of these timbers should be ascertained and remedial action taken if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

Figure 2 Check embedded timber for decay



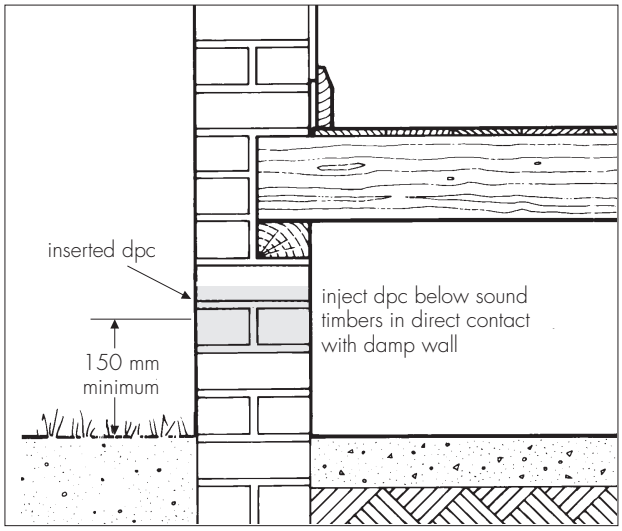
12.3 If damage is limited to the joist ends, the floors may be re-formed, using sleeper walls or joist-hangers, to isolate the timbers from the damp wall (see Figure 3).

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.

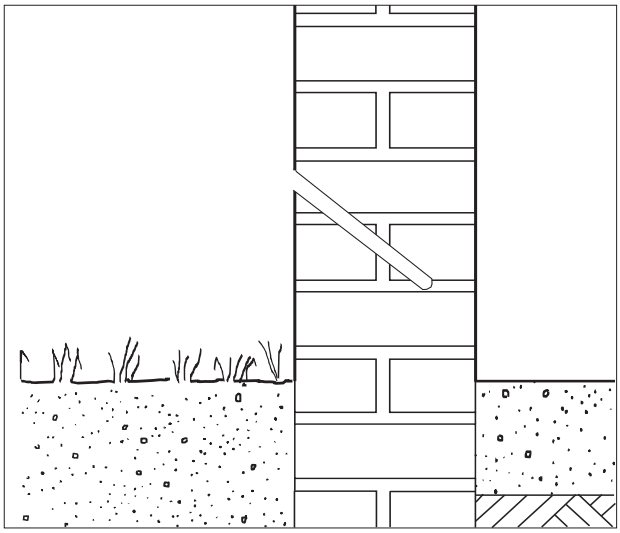
14.4 Holes in the external wall surfaces are plugged with sand/cement mortar or preformed plastic plugs coloured to match the existing wall surface.

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.

Appendix

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[1]:

- 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[1] 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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British Board of Agrément
Bucknalls Lane
Garston, Watford
Herts WD25 9BA

©2010

tel: 01923 665300
fax: 01923 665301
e-mail: mail@bba.star.co.uk
website: www.bbacerts.co.uk