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Agrément Certificate
04/4188
Product Sheet 1

VANDEX WATERPROOFING SYSTEMS

VANDEX SUPER AND VANDEX PREMIX

This Agrément Certificate Product Sheet(1) relates to Vandex Super and Vandex Premix, cementitious waterproofing compounds for use as internal and external waterproofing for new and existing concrete structures.

(1) Hereinafter referred to as 'Certificate'.



CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.

KEY FACTORS ASSESSED

Resistance to water and water vapour — when applied to a concrete substrate the products will resist the passage of moisture into the structure (see section 6).

Resistance to sulfates — the products may be used in class DS1 soils and groundwater as defined in BRE Special Digest 1 : 2005 (see section 7).

Durability — under normal service conditions, the products will provide an effective barrier to the transmission of moisture for the design life of the structure to which they are applied (see section 13).

The BBA has awarded this Certificate to the company named above for the products described herein. These 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

Date of Third issue: 13 November 2018

Originally certificated on 22 December 2004

John Albon – Head of Approvals Construction Products

Claire Curtis-Thomas
Chief Executive

The BBA is a UKAS accredited certification body – Number 113.

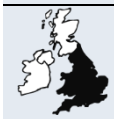
The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

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.

Any photographs are for illustrative purposes only, do not constitute advice and should not be relied upon.

Regulations

In the opinion of the BBA, Vandex Super and Vandex Premix, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

In the opinion of the BBA, the use of Vandex Super and Vandex Premix 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 products, will enable a structure to satisfy this Requirement. See section 6 of this Certificate.
Regulation:	**7**	**Materials and workmanship**
Comment:		The products are acceptable. See section 13 and the *Installation* part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

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

Regulation:	**8(1)**	**Durability, workmanship and fitness of materials**
Comment:		The products can contribute to a construction satisfying this Regulation. See section 13 and the *installation* part of this Certificate.
Regulation:	**9**	**Building standards applicable to construction**
Standard:	3.4	Moisture from the ground
Comment:		The products will enable a structure to satisfy the requirements of this Standard, with reference to clauses 3.4.1[(1)(2)], 3.4.5[(1)(2)] and 3.4.7[(1)(2)]. See section 6 of this Certificate.
Standard:	7.1(a)	Statement of sustainability
Comment:		The products can contribute to meeting the relevant requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard.
Regulation:	**12**	**Building standards applicable to conversions**
Comment:		Comments in relation to the products under Regulation 9, Standards 1 to 6 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) 2012 (as amended)

In the opinion of the BBA, the use of Vandex Super and Vandex Premix in an existing building is not subject to these Regulations, but action to satisfy Regulations 23(a)(i)(iii)(b)(i) and 28 may be necessary for a 'Material change of use' under Regulation A9.

Regulation:	**23(a)**	**Fitness of materials and workmanship**
Comment:	**(b)(i)**	The products are acceptable. See section 13 and the *Installation* part of this Certificate.
Regulation:	**28(a)**	**Resistance to moisture and weather**
Comment:		The products will enable a structure to satisfy the requirements of this regulation. See section 6 of this Certificate.

Construction (Design and Management) Regulations 2015
Construction (Design and Management) Regulations (Northern Ireland) 2016

Information in this Certificate may assist the client, designer (including Principal Designer) and contractor (including Principal Contractor) to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.1 and 3.3) of this Certificate.

Additional Information

NHBC Standards 2018

In the opinion of the BBA, Vandex Super and Vandex Premix, if installed, used and maintained in accordance with this Certificate, can satisfy or contribute to satisfying the relevant requirements in relation to *NHBC Standards*, Chapters 5.1 *Substructure and ground bearing floors,* Clause 5.1.20 *Damp-proofing concrete floors,* for use below the stab, and 5.4 *Waterproofing of basements and other below ground structures.*

Where Grade 3 protection is required and the below-ground wall retains more than 600 mm measured from the top of the retained ground to the lowest finished floor level, the products should be used in combination with either Type B or C waterproofing protection.

In the opinion of the BBA, the use of the products is acceptable on existing structures when installed and used in accordance with this Certificate and *NHBC Standards for Conversions and Renovations*, taking account of the other relevant guidance within this document on the suitability of the substrate to receive the system, and where necessary, the relevant Chapters of NHBC Standards.

Technical Specification

1 Description

1.1 Vandex Super and Vandex Premix are grey cementitious compounds containing cement, graded quartz sand and chemical additives. They are supplied in powder form to be mixed with water on site and applied as a slurry coat. Vandex Super is also available in white.

1.2 Vandex Super is a white or grey coloured waterproofing used in one or two coats. Vandex Premix is a grey coloured abrasive resistant waterproofing and used as a final coat.

1.3 Ancillary items used in conjunction with the products, but outside the scope of this Certificate, are:

- Vandex Plug — a cement-based, quick-setting hydraulic compound, used to staunch running water or seepage through concrete or masonry

- Vandex Uni Mortar 1 — a cementitious repair mortar used to fill joints flush prior to application of Vandex Super
- Vandex Refurbishment Plaster White — a cement-based renovating plaster.

2 Manufacture

2.1 The products are manufactured through a batch-blending process.

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management systems of Vandex International Ltd and Vandex Isoliermittel GmbH have been assessed and registered as meeting the requirements of ISO 9001 : 2015 and ISO 14001 : 2015 by SQS Swiss Association for Quality Management Systems (Registration CH-43652).

3 Delivery and site handling

3.1 Vandex Super and Vandex Premix are packed in 25 kg polythene-lined paper bags. Each sack or container carries a label bearing the BBA logo incorporating the number of this Certificate.

3.2 The products, when stored unopened in dry conditions, have a shelf-life of 12 months

3.3 The Certificate holder has taken the responsibility of classifying and labelling the products under the *CLP Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures.* Users must refer to the relevant Safety Data Sheet(s).

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Vandex Super and Vandex Premix.

Design Considerations

4 Use

4.1 Vandex Super and Vandex Premix are satisfactory for use as fully bonded Type A waterproofing protection as defined in BS 8102 : 2009 for the waterproofing of new or existing concrete structures. Vandex Premix is used as a final coat in areas where enhanced resistance to mechanical abrasion is required.

4.2 The products can be used internally and externally on concrete substrates to provide an effective barrier to the transmission of liquid water where Grade 1 to 3 waterproofing protection is required, as defined in Table 2 of BS 8102 : 2009, as:

- interior and exterior waterproofing for concrete structures
- waterproofing for concrete floors and construction joints
- a waterproofing system, e.g. reservoirs, tanks, pools.

4.3 Where Grade 3 waterproofing protection is required, the environment must also be controlled by use of ventilation, dehumidification and/or air conditioning (as appropriate) to ensure that dampness does not occur. See also the *Additional Information* part of this Certificate relating to the NHBC Standards.

4.4 The products are for use only on concrete and should not be applied on other surfaces, such as brickwork.

5 Practicability of installation

The products are designed to be installed by a competent general builder, or a contractor experienced with these types of products.

6 Resistance to water and water vapour



6.1 When tested to BS 3177 : 1959, a two-coat application of Vandex Super on a mortar substrate had a water vapour resistance of 1.51 $MN \cdot s \cdot g^{-1}$, and a one-coat application of Vandex Super followed by a one-coat application of Vandex Premix had a water vapour resistance of 1.41 $MN \cdot s \cdot g^{-1}$.

6.2 Vandex Super, when used in one or two coats, provides an effective barrier against the transmission of liquid water.

7 Resistance to sulfates

7.1 The products are based on cement and may be used in class DS1 soils or groundwater as defined in BRE Special Digest 1 : 2005 *Concrete in aggressive ground*, Part C *Assessing the aggressive chemical environment* (see Table 1 of the Certificate).

Table 1 Concentrations of sulfates

Design sulfate class for site	2:1 water/soil extract (SO_4 mg per litre)	Groundwater (SO_4 mg per litre)	Total potential (SO_4 %)
DS1	<500	<400	<0.24

7.2 The Certificate holder can provide an analytical service on samples of substrate, soil and groundwater.

8 Condensation risk

8.1 If the products are applied to the inside of a basement wall, the wall structure will remain cold and wet, with subsequent risks of condensation and frost damage.

8.2 The condensation risk can be reduced by the application of Vandex Refurbishment Plaster White or other proprietary, lightweight, cement-based renovating plaster, and the provision of adequate heating and ventilation and/or the use of a dehumidifier.

9 Resistance to movement

The products are unable to accommodate movement owing to settlement and can only be used where settlement is not anticipated, or in conjunction with waterproof movement joints. The Certificate holder can advise on suitable materials for such joints.

10 Fixings

10.1 Special measures are necessary to avoid breaching the waterproof render when attaching fixings. The measures include:

- the use of epoxy resin or polyurethane adhesives to bond lightweight fixing to the coated surface
- coating of recesses, made in substrate to accept heavy-duty fittings, with the products to form waterproof pockets. These are filled with an appropriate mortar and coated with the products to provide continuity of the surface coating
- the use of floor-standing supports.

10.2 If these techniques cannot be applied and it is necessary to breach the coating, the recess formed in the substrate must be filled with the products.

11 Resistance to damage

11.1 Vandex Super is vulnerable to damage during installation and in service, particularly in heavily trafficked areas where there is a risk of impact or abrasion.

11.2 Vandex Premix is used as a final coat in areas where enhanced resistance to mechanical abrasion is required (eg during backfill).

11.3 The products can be protected externally by boarding or a sand/cement mix, and internally by Vandex Refurbishment Plaster White or a proprietary, cement-based renovating plaster(1).

(1) Where appropriate, a suitable bonding agent should be used on the products prior to application of a finishing coat (see section 16.15).

12 Maintenance

As the products have suitable durability, maintenance is not required

13 Durability



Under normal conditions of use, the products will provide an effective barrier to the transmission of liquid water for the life of the structure to which they are applied.

Installation

14 General

14.1 Vandex Super is installed by suitably competent and experienced contractors using conventional techniques. Workmanship should comply with BS 8000-0 : 2014, BS 8000-3 : 2001 and BS 8000-4 : 1989.

14.2 Application of the products must not be attempted during heavy rain, at temperatures below 5°C nor to a frozen substrate.

14.3 Existing water infiltration must be investigated and rectified using Vandex Plug prior to installation of the products.

14.4 New buildings must be designed to withstand the hydrostatic pressure expected in service. The products should not be applied until structural movement owing to curing has occurred.

14.5 Continuity must be maintained with any membrane (new or existing) in the basement floor using a flexible waterproof joint. The Certificate holder can advise on suitable detailing for a particular application.

14.6 The products are not intended to provide a decorative finish. Discolouration, efflorescence and lime bloom can occur on the surface of the products, but this will not affect their waterproofing properties.

14.7 The products are approved by the Drinking Water Inspectorate for use in contact with potable water.

15 Surface preparation

15.1 The concrete surface must be examined for structural defects. All protrusions and honeycombed or damaged areas must be cut back to sound concrete. All construction joints or shrinkage cracks exceeding 0.3 mm must be chased out to depth of at least 20 mm and any irregular surfaces made good to a trowelled or/floated finish with Vandex Uni Mortar 1 or an appropriate sand : cement mix. Shutter tie holes should also be roughened and filled with Vandex Uni Mortar 1.

15.2 If the surface shows signs of frost damage, the affected area is removed and repaired using a suitable cementitious concrete repair material before the products are applied. The Certificate holder can advise on suitable

material for a particular application.

15.3 All surfaces must be sound and free from existing coatings or contamination. Sandblasting, high-pressure washing or wire brushing may be used to remove previous coatings, loose particles and surface laitance, to expose a clean, open textured concrete surface.

15.4 A new concrete surface should be bush hammered, scabbled or sand blasted to achieve the required surface finish.

15.5 All concrete surfaces should be wetted down using clean potable water. This process should be repeated until the concrete substrate is saturated.

16 Application

16.1 A slurry of Vandex Super is prepared by mechanically mixing the product in the ratio of five parts of powder to two parts of potable water by volume.

16.2 Mixed Vandex Super and Vandex Premix should be used within 20 and 30 minutes respectively and discarded if re-stirring does not restore workability. Additional water should not be added to the products once mixed.

16.3 The products are applied by brush or spray to the concrete substrate in one or two coat applications at the application rates given in Table 2.

Table 2 Application rates

Structural element	Water pressure	Minimum total application rate
Floor slab	positive(1) or negative(2)	1.2 $kg \cdot m^{-2}$ of Vandex Super applied in one coat
Walls	positive or negative	1.5 $kg \cdot m^{-2}$ of Vandex Super applied in two coats
Basement slabs and walls subject to mechanical abrasion	positive or negative	0.75 $kg \cdot m^{-2}$ of Vandex Super applied in one coat followed by 1.00 $kg \cdot m^{-2}$ of Vandex Premix applied in one coat

(1) Eg, external face of basement wall.

(2) Eg, internal face of basement wall.

16.4 The substrate must be damp but free from surface water before the products are applied.

16.5 The first coat is applied by vigorously working it into the surface using a masonry brush, or by spray. The Certificate holder can advise on suitable spray equipment.

16.6 Application should be carried out to ensure that a flowing edge is maintained. If this is not possible, when an application is continued the previously applied coat should be overlapped.

16.7 For two-coat applications, the second coat should be applied whilst the first coat is still damp at the surface. The previous coat must not be damaged during application of the following coat.

16.8 The first coat is examined for damage, pinholes and incomplete coverage before the next coat is applied and remedial action taken as required.

16.9 In areas where additional abrasion resistance is required, a slurry of Vandex Premix is prepared by mechanically mixing the product in the ratio of 2 parts of powder and 0.6 to 0.8 parts of potable water by volume, and is applied as described in section 16.3.

16.10 It is essential that the layers are kept damp for a minimum period of five days and protected from evaporation by the sun and wind. This may be achieved by post-watering the surface at regular intervals or covering the surface with plastic sheeting, wet mats or moist sand.

16.11 Setting and hardening of the products will depend on temperature and humidity. The products should be protected from rain for a minimum period of 24 hours and from frost for a minimum period of five days after application, using suitable plastic sheeting and insulating mats. Curing compounds should not be used.

16.12 In enclosed areas, air circulation should be provided for the first 24 hours after application.

16.13 Backfilling is carried out at least three days after completion of the application.

16.14 In water-retaining structures, a minimum period of 14 days should be allowed prior to filling with water.

16.15 Prior to applying a finishing coat, eg paint or render, all surfaces must be left for at least 28 days and, where appropriate, a suitable bonding agent should be used. The Certificate holder can advise on the use of such products.

Technical Investigations

17 Tests

Tests were carried out on Vandex Super and Vandex Premix and the results assessed to determine:

- efflorescence
- adhesion to concrete
- resistance to liquid water under pressure (up to 6 m head)
- compressive strength
- water vapour permeability
- resistance to freeze/thaw.

18 Investigations

18.1 The manufacturing process was evaluated, including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

18.2 An independent report detailing the results of modulus of elasticity testing was assessed.

18.3 A user survey was conducted to investigate the performance of the products in service.

18.4 A site visit was made to witness installation of the products.

Bibliography

BRE Special Digest 1 : 2005 *Concrete in aggressive ground*

BS 3177 : 1959 *Method for determining the permeability to water vapour of flexible sheet materials used for packaging*

BS 8000-0 : 2014 *Workmanship on construction sites — Introduction and general principles*
BS 8000-3 : 2001 *Workmanship on building sites — Code of practice for masonry*
BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

BS 8102 : 2009 *Code of practice for protection of below ground structures against water from the ground*

ISO 9001 : 2015 *Quality management systems — Requirements*

ISO 14001 : 2015 *Environmental management systems — Requirements with guidance for use*

19 Conditions

19.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page – no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- 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.

19.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

19.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and 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.

19.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

19.5 In issuing this Certificate the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- 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
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

19.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal 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, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue 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.