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Agrément Certificate No 04/4188

Designated by Government to issue European Technical Approvals

VANDEX SUPER

Produit d'étanchéité hydraulique
Hydraulisches Dichtungsmittel

Product

- *THIS CERTIFICATE RELATES TO VANDEX SUPER, A CEMENTITIOUS WATERPROOFING COMPOUND, AND ASSOCIATED COMPONENTS.*
- *Vandex Super is used in one or two coats for internal or external waterproofing of new or existing structures and on water retaining concrete structures.*
- *The product is used to waterproof Type A concrete structures to give a level of protection of grade 2 as defined in Table 1 of BS 8102 : 1990.*

continued

Regulations

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

The Secretary of State has agreed with the British Board of Agrément the aspects of performance to be used by the BBA in assessing the compliance of waterproofing/tanking (walls and floors) with the Building Regulations. In the opinion of the BBA, Vandex Super, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements.

Requirement:	C2	Resistance to moisture
Comment:		The product satisfies this Requirement. See sections 13 and 15 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The product is acceptable. See section 15 of this Certificate.

2 The Building Standards (Scotland) Regulations 1990 (as amended)

In the opinion of the BBA, Vandex Super, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Regulations and related Technical Standards as listed below.

Regulation:	10	Fitness of materials and workmanship
Standard:	B2.1	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product is acceptable. See the *Installation* part of this Certificate.

continued

• Vandex Premix is used as a final coat in areas where enhanced resistance to mechanical abrasion is required (eg areas in contact with backfill material).

• Vandex Super and Vandex Premix are brush or spray applied by competent contractors.

• The product is used only on concrete and should not be applied on other substrates such as brickwork.

• The products are not intended as decorative finishes.

Standard:	B2.2	Selection and use of materials, fittings, and components, and workmanship
Comment:		The product is acceptable. See section 15 of this Certificate.
Regulation:	17	Resistance to moisture
Standard:	G2.6	Preparation of a site and resistance to moisture from the ground — Resistance to moisture from the ground
Comment:		The product satisfies this Standard. See sections 13 and 15 of this Certificate.

3 The Building Regulations (Northern Ireland) 2000

In the opinion of the BBA, Vandex Super, if used in accordance with the provisions of this Certificate, will satisfy or contribute to satisfying the various Building Regulations as listed below.

Regulation:	B2	Fitness of materials and workmanship
Comment:		The product is acceptable. See section 15 of this Certificate.
Regulation:	C4	Resistance to ground moisture and weather
Comment:		The product can satisfy the requirements of this Regulation. See sections 13 and 15 of this Certificate.

4 Construction (Design and Management) Regulations 1994 (as amended)

Construction (Design and Management) Regulations (Northern Ireland) 1995 (as amended)

Information in this Certificate may assist the client, planning supervisor, designer and contractors to address their obligations under these Regulations.

See section: 6 *Delivery and site handling* (6.1 and 6.3).

5 Water Supply (Water Quality) Regulations 2000, England, Water Supply (Water Quality) Regulations 2001, Wales, Water Supply (Water Quality) (Scotland) Regulations 2001 and the Water Supply (Water Quality) Regulations (Northern Ireland) 2002

England and Wales

The Drinking Water Inspectorate has approved Vandex Super and Vandex Premix, for use in connection with the provision of public water supplies. It satisfies the Regulation listed below.

Regulation:	31	Application and introduction of substances and products
Comment:		See section 8.7 of this Certificate.

Scotland

The Drinking Water Inspectorate has approved Vandex Super and Vandex Premix, for use in connection with the provision of public water supplies. It satisfies the Regulation listed below.

Regulation:	27	Application and introduction of substances and products
Comment:		See section 8.7 of this Certificate.

Northern Ireland

The Drinking Water Inspectorate has approved Vandex Super and Vandex Premix, for use in connection with the provision of public water supplies. It satisfies the Regulation listed below.

Regulation:	30	Application and introduction of substances and products
Comment:		See section 8.7 of this Certificate.

Technical Specification

6 Description

6.1 Vandex Super and Vandex Premix are grey cementitious compounds containing Portland 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. Vandex Super is also available in white.

6.2 The products are manufactured in continuous batch blending processes.

6.3 Quality control checks are carried out on the raw materials, during production and on the finished products.

6.4 Other components used 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.

7 Delivery and site handling

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

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

7.3 The products are cement-based and must be handled using routine precautions for cement-based products.

Design Data

8 General

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

8.2 The product is satisfactory for internally and externally waterproofing new or existing Type A concrete structures to give a level of protection of Grade 2 as defined in Table 1 of BS 8102 : 1990, in the situations defined below (see also section 18.3):

- for interior and exterior waterproofing of concrete structures
- for waterproofing concrete floors and construction joints
- as a waterproofing system, eg reservoirs, tanks, pools.

8.3 The product is used only on concrete and should not be applied on other substrates, such as brickwork.

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

8.5 Continuity should be maintained with any membrane (new or existing) in the basement floor using a flexible waterproof joint.

8.6 Vandex Super and Vandex Premix are not intended to provide a decorative finish. Discoloration, efflorescence and lime bloom can occur on the surface of the products, but this will not affect their waterproofing properties.

8.7 Vandex Super and Vandex Premix are suitable for use in contact with potable water. They are approved by the Drinking Water Inspectorate under the appropriate Statutory Instruments in connection with the provision of public supplies of water for drinking, washing, cooking or food production purposes and are listed in Section 4.A *Cementitious and Associated Products* of the DWI Approved list.

9 Resistance to movement

The product is unable to accommodate movement due 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.

10 Fixings

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

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

11 Sulphate resistance

Vandex Super and Vandex Premix are based on Portland cement and may be used in soils or groundwater of Class DS1, as defined in BRE Special Digest 1 : 2001 *Concrete in aggressive*

ground, Part 1 *Assessing aggressive chemical environment* (see Table 1).

Table 1 Concentrations of sulphates expressed as SO_4

Class	In soil		In groundwater
	Total SO_4 (%)	SO_4 in 2:1 water soil extract (g per litre)	(g per litre)
DS1	<0.24	<1.2	<0.4

12 Resistance to damage

12.1 The coating is vulnerable to damage during installation, and in service, particularly in heavily trafficked areas where there is a risk of impact or abrasion.

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

12.3 Coatings of the product on walls can be protected by boarding, a sand / cement mix, 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 18.15).

13 Resistance to water vapour

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 $MNsg^{-1}$ 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 $MNsg^{-1}$

14 Condensation risk

14.1 If the product is applied to the inside of a basement wall, the wall structure will remain cold and wet, with subsequent risks of condensation and frost damage.

14.2 The condensation risk can be minimised by the application of a coat 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.

15 Durability

Under normal conditions of use, Vandex Super will provide an effective barrier to the transmission of liquid water for the life of the building to which it is applied.

Installation

16 General

16.1 Vandex Super is installed by suitably competent and experienced contractors using conventional techniques. Workmanship should comply with BS 8000-4 : 1989.

16.2 Application of the product should not be attempted during heavy rain, at temperatures below 5°C nor to a frozen substrate.

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

17 Surface preparation

17.1 The concrete surface must be examined for structural defects. All protrusions, honeycombed or damaged areas should be cut back to sound concrete. All construction joints or shrinkage cracks exceeding 0.3 mm should be chased out to depth of at least 20 mm and any irregular surfaces should be 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 as described above.

17.2 If the surface shows frost damage, the affected area is removed and repaired using a suitable cementitious concrete repair material before the product is applied. The Certificate holder can advise on suitable material for a particular application.

17.3 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.

17.4 A new concrete surface should be bush hammered, scabbled or sandblasted to achieve the required surface finish.

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

18 Application

18.1 A slurry of Vandex Super is prepared by mechanically mixing the product to the ratio of 2 parts of powder to 0.8 parts of potable water by volume.

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

18.3 The product is applied 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 kgm^{-2} of Vandex Super applied in one coat
Walls	positive or negative	1.5 kgm^{-2} of Vandex Super applied in two coats
Basement slabs and walls subject to mechanical abrasion	positive or negative	0.75 kgm^{-2} of Vandex Super applied in one coat followed by 1.00 kgm^{-2} of Vandex Premix applied in one coat

(1) Eg external face of basement wall.

(2) Eg internal face of basement wall.

18.4 The substrate must be damp but free from surface water before the product is applied.

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

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

18.7 For two-coat applications, the second coat should be applied whilst the first coat is still green.

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

18.9 In areas where additional abrasion resistance is required, a slurry of Vandex Premix is prepared as described in 18.1, mixing in the ratio of 2 parts of powder and 0.6 to 0.8 parts of potable water by volume.

18.10 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.

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

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

18.13 Backfilling should be carried out, allowing at least three days after completion of the application.

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

18.15 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

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

19 Tests

Test were carried out on Vandex Super and Vandex Premix to determine:

- efflorescence
- compressive strength
- adhesion to concrete
- water vapour permeability
- resistance to liquid water under pressure
- resistance to freeze / thaw

20 Investigations

20.1 An independent report detailing the results of modulus of elasticity testing was examined.

20.2 A postal user survey was conducted to investigate the performance of the product in service.

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

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

Additional Information

The management systems of the manufacturer, Vandex Isoliermittel GmbH have been assessed and registered as meeting the requirements of ISO 9001 : 2000 and ISO 14001 : 2004 by SQS Swiss Association for Quality Management Systems (Registration No 30786).

Bibliography

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

BS 8000-4 : 1989 *Workmanship on building sites — Code of practice for waterproofing*

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

ISO 9001 : 2000 *Quality management systems — Requirements*

ISO 14001 : 2004 *Environmental management systems— Specification with guidance for use*

Conditions of Certification

21 Conditions

21.1 This Certificate:

(a) relates only to the product that is described, installed, used and maintained as set out in this Certificate;

(b) is granted only to the company, firm or person identified on the front cover — no other company, firm or person may hold or claim any entitlement to this Certificate;

(c) is valid only within the UK;

(d) has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective;

(e) is copyright of the BBA;

(f) is subject to English law.

21.2 References in this Certificate to any Act of Parliament, Regulation made thereunder, Directive or Regulation of the European Union, Statutory Instrument, Code of Practice, British Standard, manufacturers' instructions or similar publication, are references to such publication in the form in which it was current at the date of this Certificate.

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

(a) are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA;

(b) continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine; and

(c) are reviewed by the BBA as and when it considers appropriate.

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

(a) the presence or absence of any patent, intellectual property or similar rights subsisting in the product or any other product;

(b) the right of the Certificate holder to market, supply, install or maintain the product; and

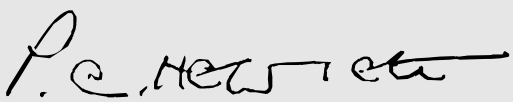
(c) the actual works in which the product is installed, used and maintained, including the nature, design, methods and workmanship of such works.

21.5 Any recommendations relating to the use or installation of this product which are contained or referred to in this Certificate are the minimum standards required to be met when the product is used. They do 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 or in the future; nor is conformity with such recommendations to be taken as satisfying the requirements of the 1974 Act or of any present or future 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 installation and use of this product.

BBA BRITISH BOARD OF AGRÉMENT
TECHNICAL APPROVALS FOR CONSTRUCTION

In the opinion of the British Board of Agrément, Vandex Super is fit for its intended use provided it is installed, used and maintained as set out in this Certificate. Certificate No 04/4188 is accordingly awarded to Vandex (UK) Ltd.

On behalf of the British Board of Agrément



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Chief Executive

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