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BAW-22-244-P-A-UK
BDA Agrément®
Cortex 0220FR Breather
Membrane

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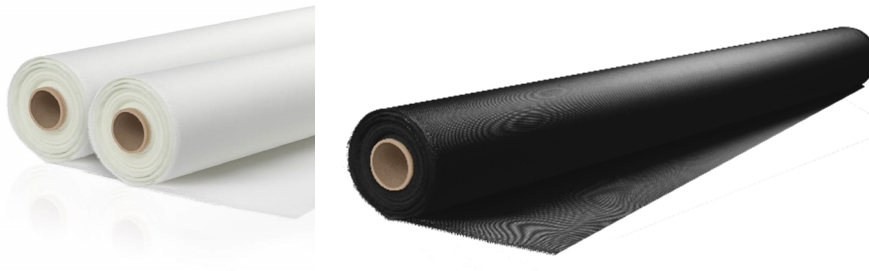
SCOPE OF AGRÉMENT

This BDA Agrément® (hereinafter 'Agrément') relates to Cortex 0220FR Breather Membrane (hereinafter the 'Product'), which allows water vapour to escape from inside the building whilst providing a level of protection against water penetration. The Product is for use in sheathed structural timber-frame (hereinafter 'STF') and light gauge steel-frame (hereinafter 'LGSF') walls with a cavity and a masonry outer leaf, weatherboarding or tile/slate cladding. The Product can be installed in existing and new dwellings, and buildings other than dwellings.

DESCRIPTION

The Product consists of a fibreglass cloth structure impregnated with a polymer composition to form a reflective and vapour-permeable breather membrane. The Product is 0.20 mm thick, and available in white and black options.

ILLUSTRATION



THIRD-PARTY ACCEPTANCE

None requested by the Agrément holder.

STATEMENT

It is the opinion of Kiwa Ltd. that the Product is safe and fit for its intended use, provided it is specified, installed and used in accordance with this Agrément.

Craig Devine
 Operations Manager, Building Products

Alpheo Mlotha CEng FIMMM MBA
 Head of Operations, Building Products

SUMMARY OF AGRÉMENT

This document provides independent information to specifiers, specialists, engineers, building control personnel, contractors, installers and other construction industry professionals who are considering the safety and fitness for purpose of the Product. This Agrément covers the following:

- Conditions of use;
- Production Control, Quality Management System and the Annual Verification Procedure;
- Product components and ancillary items, points of attention for the Specifier and examples of details;
- Installation;
- Independently assessed Product characteristics and other information;
- Compliance with national Building Regulations, other regulatory requirements and Third-Party Acceptance, as appropriate;
- Sources.

MAJOR POINTS OF ASSESSMENT

The Product described in this Agrément meets the requirements defined on Kiwa Technical Requirement KTR-58.

Moisture control - see Section 2.2.7 - the Product:

- can contribute to limiting the risk of interstitial and surface condensation;
- will contribute to providing protection against water penetration.

Strength - see Section 2.2.8 - the Product has adequate strength to resist damage during the construction of the wall.

Fire performance - see Section 2.2.9 - the Product is classified as European Classification A1 (white colour) and A2-s1, d0 (black colour), in accordance with BS EN 13501-1.

Durability - see Section 2.2.10 - the Product shall have a service life durability equivalent to that of the building into which it is incorporated.

UKCA and CE marking - see Section 2.2.11 - the Agrément holder has responsibility for conformity marking, in accordance with all relevant British and European Product Standards.

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- 1.1 - Conditions of use
- 1.2 - Production Control and Quality Management System
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1 GENERAL CONSIDERATIONS

1.1 CONDITIONS OF USE

1.1.1 Limitations

This Agrément has been prepared in accordance with the mandatory requirements defined in Kiwa Technical Requirement KTR-58. Some information in this Agrément is provided for guidance or reference purposes only; this information falls outside the scope of the Technical Requirement.

1.1.2 Application

The assessment of the Product relates to its use in accordance with this Agrément and the Agrément holder's requirements.

1.1.3 Assessment

Kiwa Ltd. has assessed the Product in combination with relevant test reports, technical literature, the Agrément holder's quality plan, DoPs and site visit, as appropriate.

1.1.4 Installation supervision

The quality of installation and workmanship shall be controlled by a competent person who shall be an employee of the installation company (hereinafter 'Installer').

The Product shall be installed strictly in accordance with the instructions of the Agrément holder and the requirements of this Agrément.

1.1.5 Geographical scope

The validity of this document is limited to England, Wales, Scotland and Northern Ireland, with due regard to Section 3 of this Agrément (CDM, national Building Regulations and Third-Party Acceptance).

1.1.6 Validity

The purpose of this Agrément is to provide well-founded confidence to apply the Product within the scope described. The validity of this Agrément is as published on www.kiwa.co.uk/bda.

1.2 PRODUCTION CONTROL AND QUALITY MANAGEMENT SYSTEM

Kiwa Ltd. has conducted an audit of the Agrément holder and determined that they fulfil all their obligations in relation to this Agrément in respect of the Product.

The initial audit demonstrated that the Agrément holder has a satisfactory Quality Management System (QMS) and is committed to continuously improving their quality plan. Document control and record-keeping procedures were deemed satisfactory. A detailed Production Quality Specification (PQS) has been compiled to ensure traceability and compliance under the terms of this Agrément.

1.3 ANNUAL VERIFICATION PROCEDURE - CONTINUOUS SURVEILLANCE

To demonstrate that the Product conforms with the requirements of the technical specification described in this Agrément, an Annual Verification Procedure has been agreed with the Agrément holder in respect of continuous surveillance and assessment, and auditing of the Agrément holder's QMS.

2 TECHNICAL ASSESSMENT

This Agrément does not constitute a design guide for the Product. It is intended only as an assessment of safety and fitness for purpose.

2.1 PRODUCT COMPONENTS AND ANCILLARY ITEMS

2.1.1 Components included within the scope of this Agrément

The components listed in Table 1 below are integral to the use of the Product.

Table 1 - Integral components

| Product | Description | Dimensions |
|---------------------------------|--|---|
| Cortex 0220FR Breather Membrane | fibreglass cloth structure impregnated with a polymer composition to form a waterproof and vapour-permeable membrane. The membrane is available in white and black | 0.20 mm thick, 1.5 m wide by 50 m long |
| Cortex Double-Sided Tape | brown, double-sided acrylic tape with silicone-coated filmic liner, for adhering the edges of the breather membrane onto the substrate | 0.22 to 0.24 mm thick, 50 mm-wide by 100 m-long rolls |
| Cortex UV Façade Tape | black, single-sided acrylic tape with silicone-coated paper liner, for sealing overlaps, penetrations and joints | 0.30 to 0.33 mm thick, 75 mm-wide by 25 m-long rolls |

2.2 POINTS OF ATTENTION TO THE SPECIFIER

2.2.1 Design

2.2.1.1 Design responsibility

A Specifier may undertake a project-specific design, in which case it is recommended that the Specifier co-operates closely with the Agrément holder. The Specifier or Installer is responsible for the final as-built design.

2.2.1.2 Basis of design

The characteristics detailed in the section titled 'Major Points of Assessment' shall be considered during the use of Product.

2.2.1.3 General design considerations

The supporting structure shall be structurally sound and designed and constructed in accordance with current Building Regulations, British Standards and relevant Codes of Practice.

STF supporting walls shall be designed in accordance with BS EN 1995-1-1 and BS EN 14081-1. The timber structure shall not be less than 37 mm thick, with a minimum width of 72 mm.

LGSF supporting walls shall be designed in accordance with BS EN 1993-1-1 and BS EN 1993-1-3. The steel structure shall be not less than 1.2 mm thick, with a minimum of 50 mm flanges.

The Product is suitable for exposure during a typical construction period but must subsequently be protected from exposure to weather conditions.

2.2.1.4 Project-specific design considerations

The project-specific design shall:

- be determined by the Specifier;
- take into account the requirements of the relevant national Building Regulations (see Section 3.2);
- take into account the service life durability required (see Section 2.2.10).

The Product shall be cut to fit around openings or connections; gaps shall be minimised and any exposed cut edges shall be sealed using Cortex UV Façade Tape.

The Product shall be fixed so as to shed water away from the sheathing board and below the lowest timber/steel frame. Upper layers shall be lapped over lower layers.

Horizontal laps shall be at least 100 mm and vertical laps at least 150 mm. Vertical laps shall be staggered whenever possible. At corners, overlaps shall be at least 300 mm.

Lap joints and edges of the membrane, including around penetrations, shall be sealed appropriately using Cortex UV Façade Tape and Cortex Double-Sided Tape.

A condensation risk analysis shall be carried out at design stage, in accordance with BS 5250.

No pre-installation survey is required.

2.2.2 Applied building physics (heat, air, moisture)

A Specialist shall check the hygrothermal behaviour of a project-specific design incorporating the Product and, if necessary, offer advice on improvements to achieve the final specification. The Specialist can be either a qualified employee of the Agrément holder or a suitably qualified consultant (in which case it is recommended that the Specialist co-operates closely with the Agrément holder).

2.2.3 Permitted applications

Only applications designed according to the specifications given in this Agrément are permitted. In each case, the Specifier and Installer shall co-operate closely with the Agrément holder.

2.2.4 Installer competence level

The Product shall be installed strictly in accordance with the instructions of the Agrément holder and the requirements of this Agrément.

Installation can be undertaken by competent persons experienced in this type of work.

2.2.5 Delivery, storage and site handling

The Product is delivered in suitable packaging bearing relevant identification information (such as the Product name, production identification date or batch number, the Agrément holder's name etc.) and, where applicable, the BDA Agrément® logo incorporating the number of this Agrément.

Prior to installation, the Product shall be stored in accordance with the Agrément holder's requirements. Good housekeeping protocols shall be followed to avoid damage.

The Product shall be:

- handled following safe-handling guidelines;
- packaged in a box for individual transport or on a pallet for multiple rolls. Rolls stored on a pallet shall be wrapped with plastic film and taped;
- kept in a dry state, with boxes or pallets protected from weather by plastic sheeting or similar.

2.2.6 Maintenance and repair

Once installed, the Product does not require regular maintenance. For advice in respect of repair, consult the Agrément holder.

Performance factors in relation to the Major Points of Assessment

2.2.7 Moisture control

Condensation risk

The Product is classified as a breather membrane in accordance with BS 5250 and the water vapour resistance shall be taken to be less than or equal to 0.6 MNs/g.

External walls incorporating the Product can adequately limit the risk of interstitial and surface condensation when designed and constructed in accordance with BS 5250 and BRE Report 262.

2.2.8 Strength

The Product has adequate strength to resist damage during the construction of the wall.

2.2.9 Fire performance

The Product is classified as European Classification A1 (white) and A2-s1, d0 (black), in accordance with BS EN 13501-1.

Specifiers shall refer to the relevant national Building Regulations for detailed conditions of use regarding requirements for substrate fire performance, cavity closers and barriers, fire stopping of service penetrations and combustibility limitations for other materials (including thermal insulation and cladding) used in the overall wall construction.

2.2.10 Durability

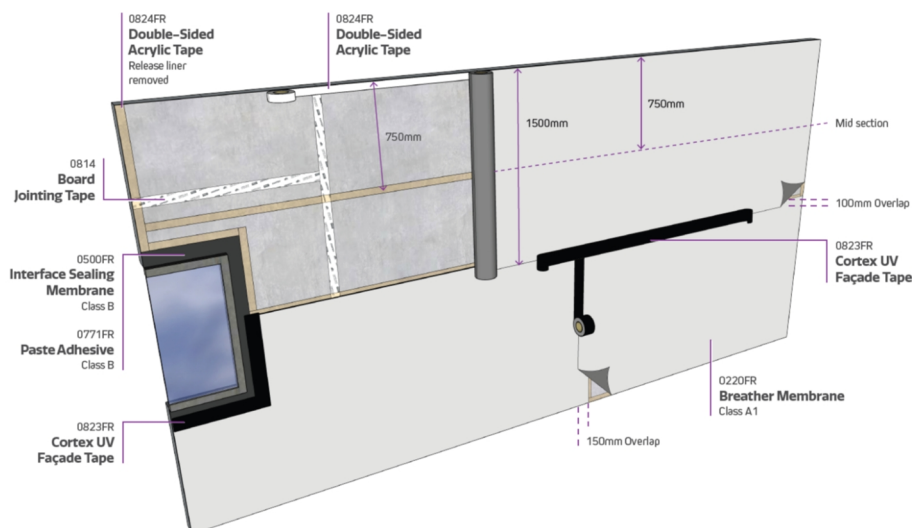
The Product shall have a service life durability equivalent to that of the building into which it is incorporated. The expected lifespan of the building itself shall be at least 60 years.

2.2.11 UKCA and CE marking

The British and European standard for the Product is BS EN 13859-2.

2.3 EXAMPLES OF TYPICAL DETAILS

Diagram 1 - Typical wall construction



2.4 INSTALLATION

The Product shall be installed strictly in accordance with the instructions (hereinafter 'Installation Manual') of the Agrément holder, the requirements of this Agrément and the requirements of BS 8000-0.

2.4.1 Project-specific installation considerations

No pre-installation survey is required.

2.4.2 Preparation

The following considerations apply before starting the work:

- the Product shall be installed directly from the roll, pulled tightly and applied either vertically or horizontally, depending on the wall height;
- sufficient Product shall be available for the planned work;
- all surfaces to be covered with the Product shall be clean and free from dust.

2.4.3 Outline installation procedure

Detailed installation procedures can be found in the Agrément holder's Installation Manual.

The outline procedure is as follows:

- apply the Cortex Double-Sided Tape to the surface of the substrate wall, with three strips to cover the width of the Product;
- peel off the release liner from the Cortex Double-Sided Tape and start rolling the Product over the surface of the wall;
- ensure that all edges of the Product adhere, including areas where the Product is customised e.g. cuts around windows and other penetrations;
- the Product shall be continuous where possible, so cut out any penetrations during application or apply them over the top and cut them out afterwards;
- when applying the next roll of Product, maintain a 100 mm overlap horizontally and 150 mm vertically. At corners, maintain minimum 300 mm overlaps;
- overlap upper layers over lower layers to shed water away from the backing wall. Stagger vertical laps wherever possible;
- use the Cortex UV Façade Tape to seal off all the edges, lap joints and penetrations.

2.4.4 Finishing

The following finishing is required on completion of the installation:

- finishes to be applied in accordance with the instruction of the manufacturer/Specifier (outside the scope of this Agrément).

2.5 INDEPENDENTLY ASSESSED PRODUCT CHARACTERISTICS

2.5.1 Moisture control

| Test | Standard | Result | |
|---|-------------|--------------|--------------|
| | | 0220FR white | 0220FR black |
| Water penetration | BS EN 13111 | W2 | |
| Water vapour diffusion-equivalent air layer thickness, S _d | BS EN 1931 | 0.03 m | 0.04 m |

2.5.2 Strength

| Test | Standard | Result | |
|------------------|---------------|--------------|--------------|
| | | 0220FR white | 0220FR black |
| Tensile strength | BS EN 12311-1 | 3828 N/50 mm | |
| | | 1992 N/50mm | |
| Tear resistance | BS EN 12310-1 | 356 N | |
| | | 424 N | |

2.5.3 Fire performance

| Test | Standard | Result | |
|---------------------------------|---------------|--------------|--------------|
| | | 0220FR white | 0220FR black |
| Reaction to fire classification | BS EN 13501-1 | A1 | A2-s1, d0 |

3 CDM, NATIONAL BUILDING REGULATIONS AND THIRD-PARTY ACCEPTANCE

3.1 THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015 AND THE CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS (NORTHERN IRELAND) 2016

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

3.2 THE NATIONAL BUILDING REGULATIONS

In the opinion of Kiwa Ltd., the Product, if installed and used in accordance with Section 2 of this Agrément, can satisfy or contribute to satisfying the relevant requirements of the following national Building Regulations.

This Agrément shall not be construed to confer the compliance of any project-specific design with the national Building Regulations.

3.2.1 England

The Building Regulations 2010 and subsequent amendments

- B3(4) Internal fire spread (structure) - the Product can adequately resist the spread of fire and smoke within the cavity
- C2(b) Resistance to moisture - the Product can contribute to resisting the passage of moisture when adequately installed
- C2(c) Resistance to moisture - the Product can contribute to limiting the risk of surface and interstitial condensation
- Regulation 7(1) Material and workmanship - the Product is manufactured from suitably safe and durable materials for its application and can be installed to give a satisfactory performance, provided it is installed in accordance with the requirements of this Agrément
- Regulation 7(2) Materials and workmanship - the Product can contribute to satisfying this Requirement

3.2.2 Wales

The Building Regulations 2010 and subsequent amendments

- B3(4) Internal fire spread (structure) - the Product can adequately resist the spread of fire and smoke within the cavity
- C2(b) Resistance to moisture - the Product can contribute to resisting the passage of moisture when adequately installed
- C2(c) Resistance to moisture - the Product can contribute to limiting the risk of surface and interstitial condensation
- Regulation 7(1) Material and workmanship - the Product is manufactured from suitably safe and durable materials for its application and can be installed to give a satisfactory performance, provided it is installed in accordance with the requirements of this Agrément
- Regulation 7(2) Materials and workmanship - the Product can contribute to satisfying this Requirement

3.2.3 Scotland

The Building (Scotland) Regulations 2004 and subsequent amendments

Regulation 8(1) Durability, workmanship and fitness of material

- the Product is manufactured from suitably safe and durable materials for its application and can be installed to give a satisfactory performance, provided it is installed in accordance with the requirements of this Agreement

Regulation 8(3) Durability, workmanship and fitness of material

- the Product is not restricted by this Regulation and can be used at any height or boundary

Regulation 9 Building Standards - Construction

- 2.4 Cavities - the Product can contribute to inhibiting the unseen spread of fire and smoke within concealed spaces
- 3.10 Precipitation - the Product can contribute to resisting precipitation penetrating to the inner face of the building
- 3.15 Condensation - the Product can contribute to limiting the risk of interstitial condensation
- 7.1(a)(b) Statement of sustainability - the Product can contribute to satisfying the relevant Requirements of Regulation 9, standard 1 to 6, and therefore can contribute to a construction meeting a bronze level of sustainability as defined in the Standard; in addition, the Product can contribute to a construction meeting a higher level of sustainability as defined in this Standard

Regulation 12 Building Standards - Conversions

- all comments given under Regulation 9 also apply to this Regulation, with reference to Schedule 6 of the Building (Scotland) Regulations 2004 and subsequent amendments, clause 0.12 of the Technical Handbook (Domestic) and clause 0.12 of the Technical Handbook (Non-domestic)

3.2.4 Northern Ireland

The Building Regulations (Northern Ireland) 2012 and subsequent amendments

- 23(a)(i)(iii)(b) Fitness of materials and workmanship - the Product is manufactured from suitably safe and durable materials for its application and can be installed to give a satisfactory performance, provided it is installed in accordance with the requirements of this Agreement
- 28(b) Resistance to moisture and weather - the Product can be constructed to prevent the passage of moisture from the weather
- 29 Condensation - the Product can contribute to limiting the risk of interstitial condensation
- 35(4) Internal fire spread (structure) - the Product can adequately resist the spread of fire and smoke within the cavity

3.3 THIRD-PARTY ACCEPTANCE

None requested by the Agrément holder.

4 SOURCES

- Kiwa Technical Requirement KTR-58 (provisional)
- BS EN ISO 9001:2015 Quality management systems. Requirements
- BS EN 1931:2000 Flexible sheets for waterproofing. Bitumen, plastic and rubber sheets for roof waterproofing. Determination of water vapour transmission properties
- BS EN 1993-1-1:2005+A1:2014 Eurocode 3. Design of steel structures - General rules and rules for buildings
- NA+A1:2014 to BS EN 1993-1-1:2005+A1:2014 UK National Annex to Eurocode 3. Design of steel structures - General rules and rules for buildings
- BS EN 1993-1-3:2006 Eurocode 3. Design of steel structures - General rules - Supplementary rules for cold-formed members and sheeting
- NA to BS EN 1993-1-3:2006 UK National Annex to Eurocode 3. Design of steel structures - General rules - Supplementary rules for cold-formed members and sheeting
- BS EN 1995-1-1:2004+A2:2014 Eurocode 5: Design of timber structures - General. Common rules and rules for buildings
- NA to BS EN 1995-1-1:2004+A2:2014 UK National Annex to Eurocode 5: Design of timber structures - General. Common rules and rules for buildings
- BS EN 12310-1:2000 Flexible sheets for waterproofing. Determination of resistance to tearing (nail shank) - Bitumen sheets for roof waterproofing
- BS EN 12311-1:2000 Flexible sheets for waterproofing. Determination of tensile properties - Bitumen sheets for roof waterproofing
- BS EN 13111:2010 Flexible sheets for waterproofing. Underlays for discontinuous roofing and walls. Determination of resistance to water penetration
- BS EN 13501-1:2018 Fire classification of construction products and building elements. Classification using data from reaction to fire tests
- BS EN 13859-2:2014 Flexible sheets for waterproofing. Definitions and characteristics of underlays - Underlays for walls
- BS EN 14081-1:2016+A1:2019 Timber structures. Strength graded structural timber with rectangular cross section - General requirements
- BS 5250:2021 Management of moisture in buildings. Code of practice
- BS 8000-0:2014 Workmanship on construction sites. Introduction and general principles
- BRE Report 262:2002 Thermal insulation: avoiding risks. Third edition

Remark - Apart from these sources, technical information and confidential reports have been assessed; any relevant documents are in the possession of Kiwa Ltd. and are kept in the Technical Assessment File of this Agrément. The Installation Manual for the Product may be subject to change; contact the Agrément holder for the clarification of revisions.

5 AMENDMENT HISTORY

| Revision | Amendment description | Author | Approver | Date |
|----------|-----------------------|-----------|----------|--------------|
| - | First issue | A Chapman | C Devine | October 2022 |
| | | | | |
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6 CONDITIONS OF USE

This Agrément may only be reproduced and distributed in its entirety.

Where a National Annex exists in respect of a BS EN (or other) standard, its use is deemed mandatory wherever the original standard is referenced.

Kiwa Ltd. has used due skill, care and attention in the preparation of this BDA Agrément®.

Whilst all due diligence has been used, no liability or warranty is extended by Kiwa Ltd.

The Agrément holder is responsible for advising Kiwa Ltd. immediately if there is a variation to the Product specification or constituent elements/components after initial publication of this BDA Agrément®.

For full terms and conditions, refer to Kiwa Ltd.