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**BAW-23-309-P-A-UK**  
**BDA Agrément®**  
**Mannok IsoCavity**  
**Cavity Wall Insulation (Full Fill)**

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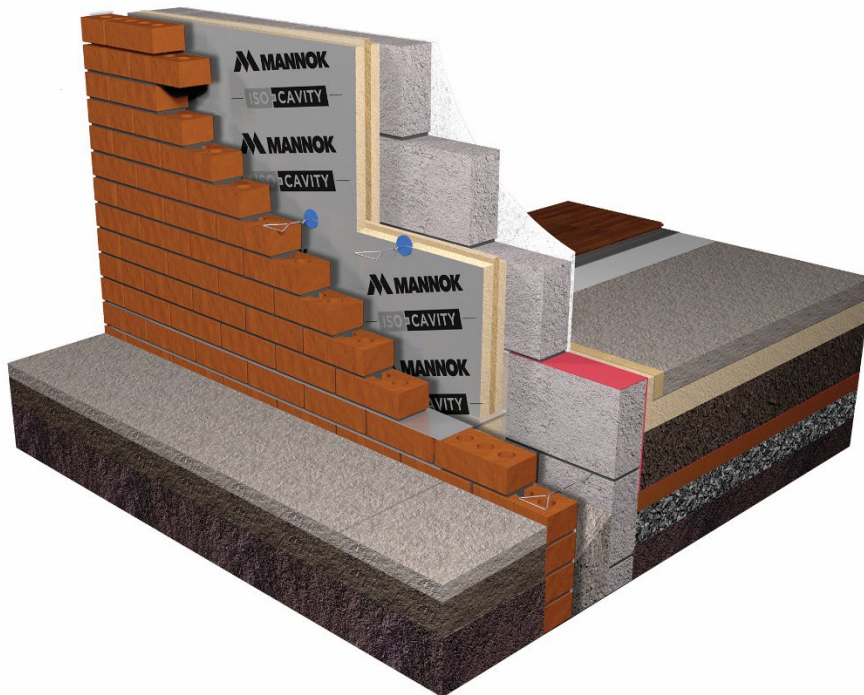
**SCOPE OF AGRÉMENT**

This BDA Agrément® (hereinafter 'Agrément') relates to Mannok IsoCavity (hereinafter the 'Product'). The Product is a rigid polyisocyanurate (hereinafter 'PIR') insulation core with a composite foil layer on the inner and outer face. The Product is for use as full fill thermal insulation (with a maximum of 10 mm residual cavity) in external cavity walls with masonry inner and outer leaves (where masonry includes clay and calcium silicate bricks, concrete blocks, natural and reconstituted stone blocks and autoclaved aerated concrete blocks<sup>1</sup>) in new residential and non-residential buildings.  
<sup>1</sup> inner leaf only

**DESCRIPTION**

The Product is a composite, rigid insulation board, manufactured in accordance with BS EN 13165. The Product consists of PIR foam with a composite foil layer on both sides, bonded to the core through a laminate process. The Product has a tongue-and-groove design for interlocking.

**ILLUSTRATION**



**THIRD-PARTY ACCEPTANCE**

See Section 3.3 (Third-Party Acceptance).

**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  
 Business Unit Manager, 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

**Moisture control** - see Section 2.2.7 - the Product will contribute to limiting the risk of condensation and resisting the transfer of water across a cavity.

**Fire performance** - see Section 2.2.8 - the Product is classified as European Classification E, in accordance with BS EN 13501-1.

**Thermal performance** - see Section 2.2.9 - the Product improves the thermal performance of external walls and can contribute to satisfying the requirements of the national Building Regulations.

**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, UKNI 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 GENERAL CONSIDERATIONS

### 1.1 CONDITIONS OF USE

#### 1.1.1 Limitations

This Agrément has been prepared in accordance with the mandatory requirements defined in the relevant Kiwa Technical Requirement. 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, Northern Ireland and 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](http://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 Product.

Table 1 - Integral components

Product	Description	Dimensions
Mannok IsoCavity	PIR foam insulation core with a composite foil (comprising layers of aluminium, adhesive, kraft paper and polyethylene) bonded to the core through a laminate process, manufactured in accordance with BS EN 13165	90 mm, 115 mm or 140 mm thick 450 mm wide by 1200 mm long

#### 2.1.2 Ancillary items falling outside the scope of this Agrément

The following ancillary items detailed in this Section may be used in conjunction with the Product, but fall outside the scope of this Agrément:

- cavity wall ties - manufactured in accordance with BS EN 845-1;
- insulation-retaining discs;
- cavity barriers;
- cavity trays;
- damp-proof course (hereinafter 'DPC').

### 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 the Product.

##### 2.2.1.3 General design considerations

Buildings incorporating the Product shall be designed and constructed in accordance with:

- BS EN 845-1;
- BS EN 1992-1-1 / I.S. EN 1992-1-1;
- BS EN 1996-1-1 / I.S. EN 1996-1-1;
- BS EN 1996-1-2 / I.S. EN 1996-1-2;
- BS EN 1996-2 / I.S. EN 1996-2;
- BS EN 1996-3 / I.S. EN 1996-3;
- BS 8000-3;
- PD 6697.

Buildings incorporating the Product shall be designed and constructed to prevent moisture penetration and air infiltration, in accordance with the relevant Codes and Standards.

Care is needed for design detailing of joints around openings, penetrations, wall corners and movement joints, which shall be in accordance with BS 6093.

Care shall be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration.

Masonry supporting walls shall be vapour permeable, allowing moisture to escape from inside the building.

The guidance given in BRE Report 262 shall be followed in connection with the weathertightness of wall constructions. The Agrément holder shall select a construction appropriate to the local wind-driven rain index in accordance with BS 8104 and exposure zones in accordance with PD 6697, paying due regard to the design detailing, workmanship and materials to be used.

The Product is for use in external masonry walls as full fill cavity wall insulation with up to a 10 mm residual cavity where specified between the Product and the external wall leaf.

For structural stability, cavity wall ties with insulation-retaining discs and any additional ties shall be used, in accordance with BS EN 845-1.

The Agrément holder shall advise on suitable insulation-retaining discs and compatible cavity wall ties, including fixing pattern, for use with the Product.

Wall ties to be used in the installation of the Product shall include a retaining disc/clip and be of the single-drip type.

Wall ties shall slope downwards towards the outer leaf and be placed at centres not exceeding 900 mm, to ensure that each insulation board is secured at a minimum of three points.

The Product shall extend at least 150 mm below DPC level to provide edge insulation in relation to the floor insulation.

Prior to installing the outer leaf of the cavity wall, the integrity of the Product shall be inspected for possible defects and damage to ensure it remains watertight.

All insulation boards shall interlock through the tongue-groove design and joints tightly butted, to ensure continuity and adequacy of joints sealing.

#### 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.

No pre-installation survey is required.

The Specifier shall ensure that the following considerations are included in the development of a project-specific design:

- structural adequacy of supporting wall;
- thermal transmittance (hereinafter 'U-value') requirements;
- condensation risk analysis requirements;
- thermal expansion effects of the supporting wall and the Product;
- adequate pull-through values for cavity wall ties;
- inner leaves made of autoclaved aerated concrete blocks are fully watertight;
- design of cavity trays, weep holes, weep vents and DPC;
- adequate cavity fire barriers;
- resistance to the ingress of precipitation, moisture and dangerous gases from the ground.

Account shall be taken of Government Accredited Construction Details for Part L - Masonry External Wall Insulation Illustrations, Timber Frame Illustrations and Steel Frame Illustrations for England and Wales and Accredited Construction Details for Scotland (hereinafter 'Government Accredited Construction Details').

#### 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 polythene-wrapped 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. When required, particular care shall be taken to:

- avoid exposure to direct sunlight for extended periods of time;
- avoid exposure to high or low temperatures for extended periods of time;
- store in a well-ventilated covered area to protect the Product from rain, frost and humidity;
- store away from possible ignition sources.

The Product shall be stored flat and raised above ground level (to avoid contact with ground moisture), in clean, dry conditions and under cover or protected with opaque polythene sheeting. Damage or wet Product shall not be used.

Consideration shall be given when storing the Product to ensure it is not exposed to solvents or other chemicals. Exposed Product, including edges, corners, and joints, shall be covered and protected from rain prior to and during installation. Care shall be taken to avoid crushing the edges or corners.

#### 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 performance of the Product, in relation to water vapour resistance and resistivity value, is in accordance with BS 5250.

External walls incorporating the Product will adequately limit the risk of surface and interstitial condensation when designed and constructed in accordance with BS 5250 and BRE Report 262. A vapour control layer may be required on the 'warm side' of the external wall to minimise the risk of condensation.

For rooms of high humidity, external masonry cavity walls incorporating the Product shall have adequate vapour control measures and permanent ventilation to eliminate interstitial condensation in the inner leaf.

The risk of condensation occurring will depend upon the effectiveness of the Product's installation and the internal and external conditions as well as the properties and vapour resistance of other materials used in the wall construction.

The Specifier shall carry out a condensation risk analysis at design stage, in accordance with BS 5250 and BRE Report 262, including an assessment of junctions, openings and penetrations. Where calculations indicate a risk of persistent condensation, a site-specific dynamic analysis to BS EN 15026 shall be considered.

#### Resistance to precipitation including wind-driven rain

The Product shall resist moisture from the ground and precipitation to the inner leaf, and satisfy the requirement as given in the relevant national Building Regulations or BRE Report 262.

Reveals, such as for windows and doors, shall be constructed incorporating a DPC as necessary.

When tested for water resistance, the Product installed onto the inside face of a fully filled external wall formed from aircrete blocks, is resistant to severe conditions of wind-driven rain - see Section 2.5.1.

#### Water absorption

Care shall be taken to ensure that the supporting walls are adequately weathertight prior to installation of the Product, in accordance with guidelines given in BRE Report 262 - see Section 2.5.1.

The project-specific design shall include detailing around openings, penetrations, and movement joints to minimise the risk of wind-driven rainwater ingress, in accordance with BS 6093.

The Agrément holder shall select a construction appropriate to the local wind-driven rain index, paying due regard to the design detailing, workmanship, and materials to be used.

### 2.2.8 Fire performance

The Product is classified as European Classification E, in accordance with BS EN 13501-1.

For all building in Wales and Northern Ireland, and non-residential buildings in England, the following applies in accordance with the national Building Regulations:

- the Product shall not be used on buildings with a storey of 18 m or more above ground level. Refer to the relevant national Building Regulations for types of buildings and any exclusions that may apply;
- boundary restrictions will apply, dependent on the external surface materials of the external wall incorporating the Product, facing the boundary.

For residential buildings in England, the following applies in accordance with the national Building Regulations:

- the Product is restricted to buildings with no floor more than 11 m above ground level. Refer to the national Building Regulations for types of buildings and any exclusions that may apply;
- boundary restrictions will apply, dependent on the external surface materials of the external wall incorporating the Product, facing the boundary.

For all buildings in Scotland, the Product is not classified as 'non-combustible' and is restricted to buildings with no floor more than 11 m above ground level and not less than 1 m from the boundary. In such cases, the Product may be excluded from the unprotected area calculation regardless of openings. Refer to the national Building Regulations for types of buildings and any exclusions that may apply.

For dwellings in Ireland, the Product shall not be used on buildings with a storey of 15 m or more above ground level. The Product can be used without any boundary restrictions. Refer to the relevant national Building Regulations for types of buildings and any exclusions that may apply.

For buildings other than dwellings in Ireland, the Product shall not be used on buildings with a storey of 18 m or more above ground level. The Product can be used without any boundary restrictions. Refer to the national Building Regulations for types of buildings and any exclusions that may apply.

The restrictions outlined above in terms of height above ground level and proximity to boundary do not apply, provided the Product is installed in a cavity construction comprising two masonry leaves, each at least 75 mm thick, and with cavities closed around openings in a wall and at the top of a wall head.

The fire resistance of walls is based on the occupancy, size and use of a building and shall be a minimum of 30 minutes. It is then specified in 60-minute intervals thereafter.

Walls shall be designed and constructed:

- to adequately resist the passage and penetration of fire;
- so that the unseen spread of fire and smoke with concealed spaces in a wall is inhibited.

In all completed wall constructions, cavity fire barriers shall be provided to comply with the relevant provisions of the national Building Regulations.



Designers shall refer to the relevant national Building Regulations and guidance for detailed conditions of use, particularly in respect of requirements for substrate fire performance, cavity closers and barriers, fire stopping of service penetrations and combustibility limitations for other materials and components used in the overall wall construction.

**Proximity of flues and appliances**

The installed Product shall be adequately separated from any chimney, heat producing appliance or incinerator flue pipe passing through a wall. Recommended means of separation are detailed in the Approved Documents supporting the national Building Regulations.

**2.2.9 Thermal performance**

For the purpose of U-value calculations, and to determine if the requirements of national Building (or other statutory) Regulations are met, the thermal resistance of cavity walls incorporating the Product shall be calculated in accordance with BS EN ISO 10211 (taking into consideration BS EN ISO 6946, BS EN ISO 10456 and BRE Report 443), using the Product’s declared thermal conductivity ( $\lambda_D$ ) and foil mean emissivity ( $\epsilon$ ) detailed in Section 2.5.4.

The U-value of a completed masonry cavity wall construction will depend on the incorporated Product thickness, degree of ventilation to the drained cavity, type of substrate, wall ties and internal finish.

The requirement for limiting heat loss through the building fabric, including the effect of thermal bridging, can be satisfied if the U-value of a wall incorporating the Product does not exceed the maximum U-values given in the national Building Regulations.

**Thermal bridging at junctions and around openings**

Care shall be taken in the overall design and construction of junctions with other elements and openings, to minimise cold bridging and air infiltration. Due consideration shall be given to the Agrément holder’s thermally modelled performance junction details and the Government Accredited Construction Details.

Guidance on linear thermal transmittance, heat flows and surface temperature factors can be found in the documents supporting the national Building Regulations and in BS EN ISO 10211, BRE Information Paper 1/06, BRE Report 262 and BRE Report 497. If required, further information can be provided by the Agrément holder.

**2.2.10 Durability**

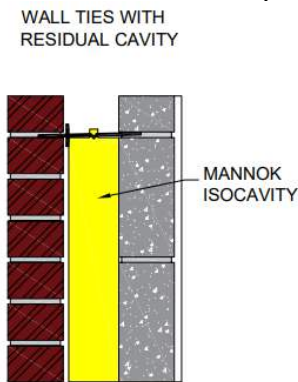
The Product shall have a service life durability equivalent to that of the building into which it is incorporated. The expected lifespan of the building itself shall be at least 60 years.

**2.2.11 UKCA, UKNI and CE marking**

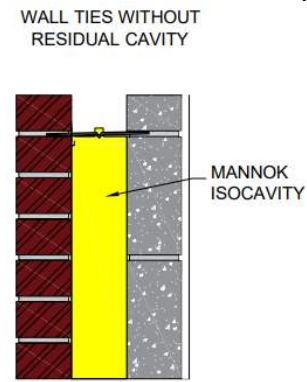
The British and European standard for the Product is BS EN 13165.

**2.3 EXAMPLES OF TYPICAL DETAILS**

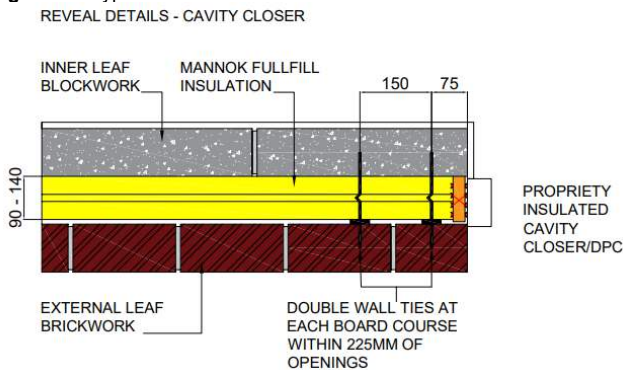
**Diagram 1 - Typical installation with a residual cavity**



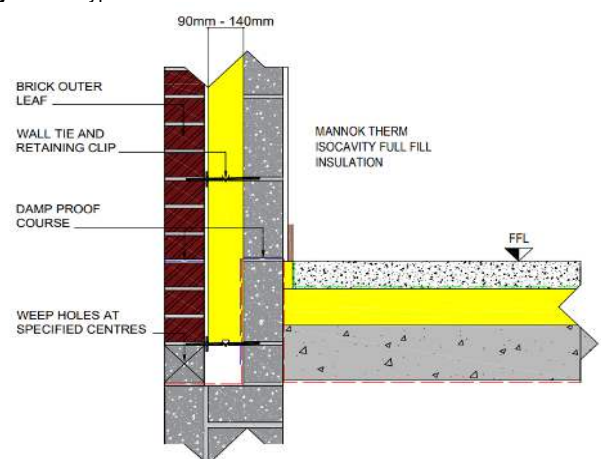
**Diagram 2 - Typical installation without a residual cavity**



**Diagram 3 - Typical reveal detail**



**Diagram 4 - Typical section**



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 substrate shall be clean, dry, level and free of sharp objects or edges;
- it is recommended that the cavity wall ties are not placed directly on the DPC;
- the Product shall only be fixed against the cavity face of the inner leaf;
- a maximum of 10 mm residual cavity shall be maintained between the Product and outer leaf;
- additional ties may be required to satisfy the structural requirements of BS EN 845-1, BS EN 1996-1-1 / I.S. EN 1996-1-1, BS EN 1996-2 / I.S. EN 1996-2 and BS EN 1996-3 / I.S. EN 1996-3 to ensure adequate retention of boards;
- installation of the Product shall be carried out to the highest level on each wall.

The following works shall be undertaken before installing the Product:

- start the wall construction from the masonry inner leaf up to the required height and install the DPC where required;
- install the wall ties with a maximum of 600 mm horizontal spacing and 450 mm vertical spacing.

### 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:

- install the first row of the insulation boards, at a minimum of 150 mm below the DPC level but ensuring they are not in contact with the ground, starting from the bottom corner of the building;
- ensure that each insulation board is retained flush against the inner leaf;
- cut vertical slots to the depth of the top tongue of the insulation board, to enable each wall tie to pass through;
- secure the insulation boards to the masonry inner leaf using suitable retaining discs;
- install the second row of wall ties to retain the tops of the bottom boards;
- continue by laying the insulation boards to the upper rows in a staggered pattern, up to the top of the cavity wall;
- ensure all boards are interlocked, with vertical joints staggered;
- incorporate a vertical DPC at wall corners, ensuring that all insulation boards are tightly butted around the corner;
- window and door opening reveals shall be constructed incorporating a cavity barrier/closer/DPC, as required;
- install the masonry outer leaf of the cavity wall up to the top level of the Product installed, maintaining a maximum of 10 mm residual cavity.

### 2.4.4 Finishing

The following finishing is required on completion of the installation:

- clean mortar droppings from the exposed edges of installed Product;
- install cavity closers on all window and door openings and a cavity batten or cavity board to protect Product edges.



## 2.5 INDEPENDENTLY ASSESSED PRODUCT CHARACTERISTICS

### 2.5.1 Moisture control

Test	Standard	Result
Long term water absorption by immersion $W_{L(T)}$	BS EN 12087	WL(T)2
Vapour resistance of the aluminium foil	BS 5250	1,000 MNs/g
Vapour resistivity of PIR foam		300 MNs/gm
Water penetration test	Lab method	Pass

### 2.5.2 Strength

Test	Standard	Result
Declared compressive strength at 10% deformation	BS EN 826	CS(10)140

### 2.5.3 Fire performance

Test	Standard	Result
Reaction to fire classification	BS EN 13501-1	E

### 2.5.4 Thermal performance

Test	Standard	Result
Initial declared thermal conductivity ( $\lambda_D$ )	BS EN 12667	0.022 W/mK
Emissivity ( $\epsilon$ ) of the aluminium foil (mean)	BS EN 16012	0.03

### 2.5.5 Other Product characteristics

Test	Standard	Result
Dimensional stability under specified temperature and conditions	BS EN 1604	DS(70,90)4
		DS (-20,-)2
Density of the PIR foam (without foil)	BS EN 1602	29 to 34 kg/m <sup>3</sup>
Thickness	BS EN 823	Class T(2)
Width	BS EN 822	Class W(2)
Length		Class L(2)

**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) - walls incorporating the Product can be designed to contribute to inhibiting the unseen spread of fire and smoke within concealed spaces
- C2(a) Resistance to moisture - walls incorporating the Product can resist moisture from the ground
- C2(b) Resistance to moisture - walls incorporating the Product can resist rain penetration to the inner leaf
- C2(c) Resistance to moisture - walls incorporating the Product can be designed and constructed to inhibit surface or interstitial condensation
- L1(a)(i) Conservation of fuel and power - the Product can contribute to limiting heat gains and losses through walls
- Regulation 7(1) Materials and workmanship - the Product is manufactured from suitably safe and durable materials for their application, and can be installed to give a satisfactory performance
- Regulation 26 CO<sub>2</sub> emission rates for new buildings - the Product can contribute to satisfying this Requirement
- Regulation 26A Fabric energy efficiency rates for new dwellings - the Product can contribute to satisfying this Requirement
- Regulation 26C Target primary energy rates for new buildings - 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) - walls incorporating the Product can be designed to contribute to inhibiting the unseen spread of fire and smoke within concealed spaces
- C2(a) Resistance to moisture - walls incorporating the Product can resist moisture from the ground
- C2(b) Resistance to moisture - walls incorporating the Product can resist rain penetration to the inner leaf
- C2(c) Resistance to moisture - walls incorporating the Product can be designed and constructed to inhibit surface or interstitial condensation
- L1(a)(i) Conservation of fuel and power - the Product can contribute to limiting heat gains and losses through walls
- Regulation 7(1) Materials and workmanship - the Product is manufactured from suitably safe and durable materials for their application, and can be installed to give a satisfactory performance
- Regulation 26 CO<sub>2</sub> emission rates for new buildings - the Product can contribute to satisfying this Requirement
- Regulation 26A Primary energy rates for new buildings - the Product can contribute to satisfying this Requirement
- Regulation 26B Fabric performance values for new dwellings - the Product can contribute to satisfying this Requirement
- Regulation 26C Energy efficiency rating - the Product can contribute to satisfying this Requirement

**3.2.3 Scotland****The Building (Scotland) Regulations 2004 and subsequent amendments****3.2.3.1 Regulation 8(1) Durability, workmanship and fitness of materials**

- The Product is manufactured from acceptable materials and is adequately resistant to deterioration and wear under normal service conditions

**3.2.3.2 Regulation 9 Building Standards - Construction**

- 2.4 Cavities - walls incorporating the Product can be designed to contribute to inhibiting the unseen spread of fire and smoke within concealed spaces
- 3.4 Moisture from the ground - walls incorporating the Product can resist moisture from the ground
- 3.10 Precipitation - walls incorporating the Product can be constructed to prevent the passage of moisture
- 3.15 Condensation - walls incorporating the Product can be designed and constructed to inhibit surface or interstitial condensation
- 6.1(b) Carbon dioxide emissions - the Product can contribute to satisfying this Requirement
- 6.2 Buildings insulation envelope - the Product can contribute to satisfying this Requirement
- 7.1(a)(b) Statement of sustainability - the Product 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. In addition, the Product can contribute to a construction meeting a higher level of sustainability, as defined in this Standard

**3.2.3.3 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(1) Fitness of materials and workmanship - the Product is manufactured from materials which are suitably safe and acceptable as described in this Agrément
- 28(a) Resistance to moisture and weather - walls incorporating the Product can resist moisture from the ground
- 28(b) Resistance to moisture and weather - walls incorporating the Product can resist rain penetration to the inner leaf
- 29 Condensation - walls incorporating the Product can adequately protect a building from moisture in the form of interstitial condensation
- 35(4) Internal fire spread (structural) - walls incorporating the Product can be designed to contribute to inhibiting the unseen spread of fire and smoke within concealed spaces
- 39(a)(i) Conservation measures - the Product can contribute to limiting heat gains and losses through walls
- 40(2) Target CO<sub>2</sub> emission rate - a wall incorporating the Product shall be designed and constructed so as not to exceed its target CO<sub>2</sub> emission rate

### 3.2.5 Ireland

#### Building Regulations 1997 and subsequent amendments

In order to demonstrate compliance with Irish Building Regulations, this BDA Agrément® certifies that the System complies with the requirements of a recognised document and indicates it is suitable for its intended purpose and use.

- B3(3) Internal fire spread (structure) - the Product can inhibit the unseen spread of fire and smoke within concealed spaces
- B8(3) Internal fire spread (structure) - the Product can inhibit the unseen spread of fire and smoke within concealed spaces
- C4 Resistance to moisture and weather - a wall incorporating the Product can contribute to adequately protecting a building from the passage of moisture
- D1 Materials and workmanship - the Product is manufactured from suitably safe and durable materials for their application, and can be installed to give a satisfactory performance
- L1 Conservation of fuel and energy in dwellings and buildings other than dwellings - the Product can contribute to limiting heat gains and losses through walls
- L5(c) Conservation of fuel and energy in new dwellings - the Product can contribute to satisfying this Requirement
- Regulation 8(c) Conservation of fuel and energy in new dwellings - the Product can contribute to satisfying this Requirement

## 3.3 THIRD-PARTY ACCEPTANCE

In the opinion of Kiwa Ltd. if installed, used, and maintained in accordance with this Agrément, this Product can satisfy the appropriate fire, moisture, thermal and durability requirements of a Structural Warranty provider. Please contact the relevant Structural Warranty provider to ascertain their project-specific design requirements and to confirm their acceptance on a case-by-case basis.

- BS EN ISO 6946:2017 Building components and building elements. Thermal resistance and thermal transmittance. Calculation methods
- BS EN ISO 9001:2015 Quality management systems. Requirements
- BS EN ISO 10211:2017 Thermal bridges in building construction. Heat flows and surface temperatures. Detailed calculations
- BS EN ISO 10456:2007 Building materials and products. Hygrothermal properties. Tabulated design values and procedures for determining declared and design thermal values
- BS EN 822:2013 Thermal insulating products for building applications. Determination of length and width
- BS EN 823:2013 Thermal insulating products for building applications. Determination of thickness
- BS EN 826:2013 Thermal insulating products for building applications. Determination of compression behaviour
- BS EN 845-1:2013+A1:2016 Specification for ancillary components for masonry. Wall ties, tension straps, hangers and brackets
- BS EN 1602:2013 Thermal insulating products for building applications. Determination of the apparent density
- BS EN 1604:2013 Thermal insulating products for building applications. Determination of dimensional stability under specified temperature and humidity conditions
- BS EN 1992-1-1:2004+A1:2014 Eurocode 2. Design of concrete structures. General rules and rules for buildings
- NA+A2:2014 to BS EN 1992-1-1:2004+A1:2014 UK National Annex to Eurocode 2. Design of concrete structures. General rules and rules for buildings
- BS EN 1996-1-1:2005+A1:2012 Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures
- NA to BS EN 1996-1-1:2005+A1:2012 UK National Annex to Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures
- BS EN 1996-1-2:2005 Eurocode 6. Design of masonry structures. General rules. Structural fire design
- NA to BS EN 1996-1-2:2005 UK National Annex to Eurocode 6. Design of masonry structures. General rules. Structural fire design
- BS EN 1996-2:2006 Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry
- NA to BS EN 1996-2:2006 UK National Annex to Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry
- BS EN 1996-3:2006 Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures
- NA+A1:2014 to BS EN 1996-3:2006 UK National Annex to Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures
- BS EN 12087:2013 Thermal insulating products for building applications. Determination of long term water absorption by immersion
- BS EN 12667:2001 Thermal performance of building materials and products. Determination of thermal resistance by means of guarded hot plate and heat flow meter methods. Products of high and medium thermal resistance
- BS EN 13165:2012+A2:2016 Thermal insulation products for buildings. Factory made rigid polyurethane foam (PU) products. Specification
- BS EN 13501-1:2018 Fire classification of construction products and building elements. Classification using data from reaction to fire tests
- BS EN 15026:2023 Hygrothermal performance of building components and building elements. Assessment of moisture transfer by numerical simulation
- BS EN 16012:2012+A1:2015 Thermal insulation for buildings. Reflective insulation products. Determination of the declared thermal performance
- BS 5250:2021 Management of moisture in buildings. Code of practice
- BS 6093:2006+A1:2013 Design of joints and jointing in building construction. Guide
- BS 8000-0:2014+A1:2024 Workmanship on construction sites. Introduction and general principles
- BS 8000-3:2020 Workmanship on building sites. Masonry. Code of practice
- BS 8104:1992 Code of practice for assessing exposure of walls to wind-driven rain
- Accredited Construction Details, Scotland:2019
- BRE Information Paper 1/06:2006 Assessing the effects of thermal bridging at junctions and around openings
- BRE Report 262:2002 Thermal insulation: avoiding risks
- BRE Report 443:2019 Conventions for U-value calculations
- BRE Report 497:2016 Conventions for calculating linear thermal transmittance and temperature factors
- Government Accredited Construction Detail for Part L:2019
- I.S. EN 1991-1-1:2002 Eurocode 1: Actions on structures. Part 1-1: General actions. Densities, self-weight, imposed loads for buildings
- I.S. EN 1991-1-1:2002/NA:2013 Irish National Annex to Eurocode 1: Actions on structures. Part 1-1: General actions. Densities, self-weight, imposed loads for buildings
- I.S. EN 1996-1-1:2005+A1:2012 Eurocode 6: Design of masonry structures. Part 1-1: General rules for reinforced and unreinforced masonry structures
- I.S. EN 1996-1-1+A1:2012/NA:2010+A1:2014 Irish National Annex to Eurocode 6: Design of masonry structures. Part 1-1: General rules for reinforced and unreinforced masonry structures
- I.S. EN 1996-1-2:2005 Eurocode 6: Design of masonry structures. Part 1-2: General rules. Structural fire design
- I.S. EN 1996-1-2/NA:2005 Irish National Annex to Eurocode 6: Design of masonry structures. Part 1-2: General rules. Structural fire design
- I.S. EN 1996-2:2006 Eurocode 6: Design of masonry structures. Part 2: Design considerations, selection of materials and execution of masonry
- I.S. EN 1996-2/NA:2006 Irish National Annex to Eurocode 6: Design of masonry structures. Part 2: Design considerations, selection of materials and execution of masonry
- I.S. EN 1996-3:2006 Eurocode 6: Design of masonry structures. Part 3: Simplified calculation methods for unreinforced masonry structures
- I.S. EN 1996-3/NA:2006 Irish National Annex to Eurocode 6: Design of masonry structures. Part 3: Simplified calculation methods for unreinforced masonry structures
- PD 6697:2019 Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2

**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	E Taylor	C Devine	May 2024

## 6 CONDITIONS OF USE

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