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**BAF-24-372-S-A-UK**  
**BDA Agrément®**  
**Supafil® Frame and Supafil® MAX**  
**Frame 033**  
**Intermediate Floor/Ceiling**  
**Insulation (Blowing Wool)**



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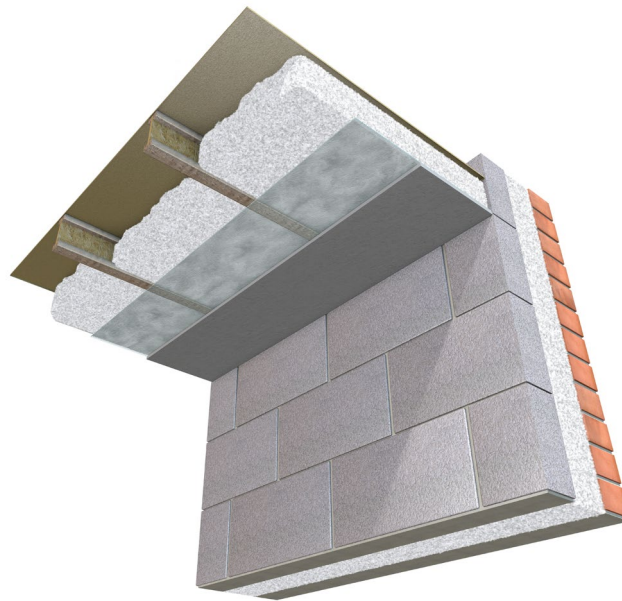
## SCOPE OF AGRÉMENT

This BDA Agrément® (hereinafter 'Agrément') relates to Supafil® Frame and Supafil® MAX Frame 033 (hereinafter the 'System'), a glass mineral wool fibre material blown in a loose form, for use as insulation in intermediate timber floors of habitable rooms where there is an unheated space (such as garage and storage areas). The System is installed from the underside of the intermediate floor/ceilings construction, blown through a polypropylene veil (hereinafter 'veil') which creates a temporary cavity between timber floor joists and deck for use in existing and new residential and non-residential buildings.

## DESCRIPTION

The System consists of unbonded glass mineral wool fibres, blown through a translucent veil in-between timber floor joists, until the cavity is fully filled, and the required density is achieved.

## ILLUSTRATION



## THIRD-PARTY ACCEPTANCE

None requested by the Agrément holder.

## STATEMENT

It is the opinion of Kiwa Ltd. that the System 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 System. This Agrément covers the following:

- Conditions of use;
- Production Control, Quality Management System and the Annual Verification Procedure;
- System components and ancillary items, points of attention for the Specifier and examples of details;
- Installation;
- Independently assessed System 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 System will contribute to limiting the risk of condensation.

**Fire performance** - see Section 2.2.8 - the glass mineral wool insulation fibres are classified as European Classification A1 and the veil is classified as European Classification E, in accordance with BS EN 13501-1.

**Thermal performance** - see Section 2.2.9 - the System improves the thermal performance of the building into which it is incorporated and can enable a building to meet the design U-value requirements.

**Adequacy of fill** - see Section 2.2.10 - the System can fully fill the cavity between timber floor joists (with no voids/gaps and a consistent density) when installed correctly.

**Durability** - see Section 2.2.11 - the System shall have a service life durability equivalent to that of the building into which it is incorporated.

**UKCA, UKNI and CE marking** - see Section 2.2.12 - 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 System relates to its use in accordance with this Agrément and the Agrément holder's requirements.

#### 1.1.3 Assessment

Kiwa Ltd. has assessed the System 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 an Approved Installer.

The System 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 System 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 System.

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 System 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 System. It is intended only as an assessment of safety and fitness for purpose.

### 2.1 SYSTEM 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 System.

**Table 1** - Integral components

| System                                                | Component                        |                                                       | Description                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------|----------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supafil®<br>Frame and<br>Supafil®<br>MAX<br>Frame 033 | glass mineral<br>wool insulation | Supafil® Frame<br>(15.5 kg bales)                     | blown glass mineral wool fibres, manufactured in<br>accordance with BS EN 14064-1                                                                                                                                                                                                |
|                                                       |                                  |                                                       |                                                                                                                                                                                                                                                                                  |
|                                                       |                                  | Supafil® MAX Frame<br>033 (174 kg bales) <sup>a</sup> |                                                                                                                                                                                                                                                                                  |
|                                                       | veil                             | Supafil® Veil                                         | a 0.2 mm thick translucent non-woven polypropylene white veil, with a density of 30 g/m <sup>2</sup> and a<br>tensile strength of 75 N (MD) and 40 N (CD), stapled to timber studs, for use with Supafil® Frame<br>with density of 26 kg/m <sup>3</sup> and 30 kg/m <sup>3</sup> |

<sup>a</sup> installation of Supafil® MAX Frame 033 is outside the scope of this Agrément (off-site installation)

All following considerations in this Agrément relate only to the installation of Supafil® Frame with density of 26 kg/m<sup>3</sup> or 30 kg/m<sup>3</sup>.

#### 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 System, but fall outside the scope of this Agrément:

- blowing machine;
- application equipment;
- breathable bag;
- flooring board/deck;
- timber floor joists;
- vapour control layer (hereinafter 'VCL');
- plasterboard lining;
- staples (for veil application).

### 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 System.

##### 2.2.1.3 General design considerations

A project-specific design is required to evaluate and approve the suitability of the floor for installation of the System. This shall be done in close co-operation with the Agrément holder.

The System:

- is blown by pushing a nozzle through the veil and injecting the mineral wool fibres into the cavity between the timber floor joists and the flooring board/deck;
- shall fully fill the cavities (with no voids/gaps and a consistent density), until the entire cavity is insulated;
- remains stable within a cavity and has adequate resistance to settlement.

Buildings incorporating the System shall:

- be designed and constructed in such a way as to prevent moisture ingress;
- be structurally sound and designed in accordance with the relevant Standards.

The System shall not be left exposed. Once the System is installed, it shall subsequently be covered with a suitable plasterboard lining.

The timber framed construction shall be designed in accordance with BS EN 1995-1-1 / I.S. EN 1995-1-1, BS EN 14081-1, PD 6693-1 and BS EN 300.

Care is needed for design detailing of joints around openings, services, penetrations and corners, 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.

The System shall be applied in such a way that electrical cables are not fully encased in the insulation, and shall not be applied directly over recessed lighting, existing vents or ventilations gaps. Consider re-routing, re-laying in conduit or trunking or de-rating electrical cables.

#### 2.2.1.4 Project-specific design considerations

The project-specific design shall:

- be determined by the Agrément holder;
- 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 2.2.11.

A pre-installation survey is required to allow determination of the project-specific design - see Section 2.4.1.

Account shall be taken of Government Accredited Construction Details for Part L, England and Wales and Accredited Construction Details for Scotland (hereinafter 'Government Accredited Construction Details'), and energy efficiency measures in PAS 2030 and PAS 2035.

#### 2.2.2 Applied building physics (heat, air, moisture)

A Specialist shall check the hygrothermal behaviour of a project-specific design incorporating the System 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 System shall be installed strictly in accordance with the instructions of the Agrément holder and the requirements of this Agrément.

Installation shall be by employees trained and approved by the Agrément holder and subject to inspections by Kiwa Ltd. under a Kiwa Installation Assessment & Surveillance Scheme.

#### 2.2.5 Delivery, storage and site handling

The System is delivered in suitable packaging bearing relevant identification information (such as the System 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 System components shall be stored in accordance with the Agrément holder's requirements. Good housekeeping protocols shall be followed to avoid damage.

Appropriate personal protective equipment shall be worn during handling and installation of the System.

The System is supplied in polythene packs which are designed for short term protection only. For longer term protection on site, the System shall be stored either indoors, or under cover and off the ground.

#### 2.2.6 Maintenance and repair

Once installed, the System 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 System, in relation to water vapour permeability and short-term water absorption, is detailed in Section 2.5.1.

Buildings incorporating the System will adequately limit the risk of surface and interstitial condensation when designed in accordance with BS 5250. Care shall be taken to provide adequate ventilation, particularly in rooms expected to experience high humidity, and to ensure the integrity of any VCL and lining board against vapour ingress.

A condensation risk analysis is required and shall be completed at design stage for each application of the System. Intermediate floors/ceilings shall adequately limit the risk of surface and interstitial condensation in accordance with the national Building Regulations.

#### 2.2.8 Fire performance

The glass mineral wool insulation fibres are classified as European Classification A1, in accordance with BS EN 13501-1, in line with the recommendations of European Commission Decision 96/603/EC.

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

The ceiling lining in non-habitable spaces including garages (as part of a dwellinghouse) of maximum internal floor area of 40 m<sup>2</sup> shall have a reaction to fire classification of Class D-s3, d2, in accordance with BS EN 13501-1, in accordance with the requirements of national Building Regulations.

The fire resistance of the intermediate floor which is part of the building shall be a minimum of REI 30 in accordance with the national Building Regulations.

Designers shall refer to the relevant national Building Regulations and guidance for detailed conditions of use. This is particularly relevant to requirements for the fire performance of buildings and fire stopping of service penetrations, noting that intermediate floor/ceiling constructions which provide a fire-separating element shall be required to provide a specified period of fire resistance.

Buildings shall incorporate cavity barriers at edges, junctions, around openings and service penetrations with fire-resisting elements, ensuring continuity of fire resistance, in accordance with the national Building Regulations. Where a wall bearing the floor is part of a fire separating element, the continuity of fire resistance of the wall shall be maintained.

### 2.2.9 Thermal performance

For the purpose of U-value calculations and to determine if the requirements of the national Building (or other statutory) Regulations are met, the thermal resistance of the floor incorporating the System shall be calculated in accordance with relevant publications such as BS EN ISO 6946, BS EN ISO 10211, BS 5250 and BRE Report 443, using the insulation's declared thermal conductivity ( $\lambda_D$ ).

Care shall be taken in the overall design and construction of junctions with other elements and openings to minimise thermal bridges and air infiltration. Due consideration shall be given to 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, BRE Report 497 and PAS 2030. If required, further information can be provided by the Agrément holder.

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 floor incorporating the System does not exceed the maximum U-values given in the national Building Regulations.

### 2.2.10 Adequacy of fill

A cavity between timber floor joists can be fully filled (with no voids/gaps and a consistent density), including around details.

Care shall be taken in difficult-to-fill areas of a cavity between floor joists, e.g. corners, to ensure that the cavity is sufficiently filled with the System.

### 2.2.11 Durability

The System 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.

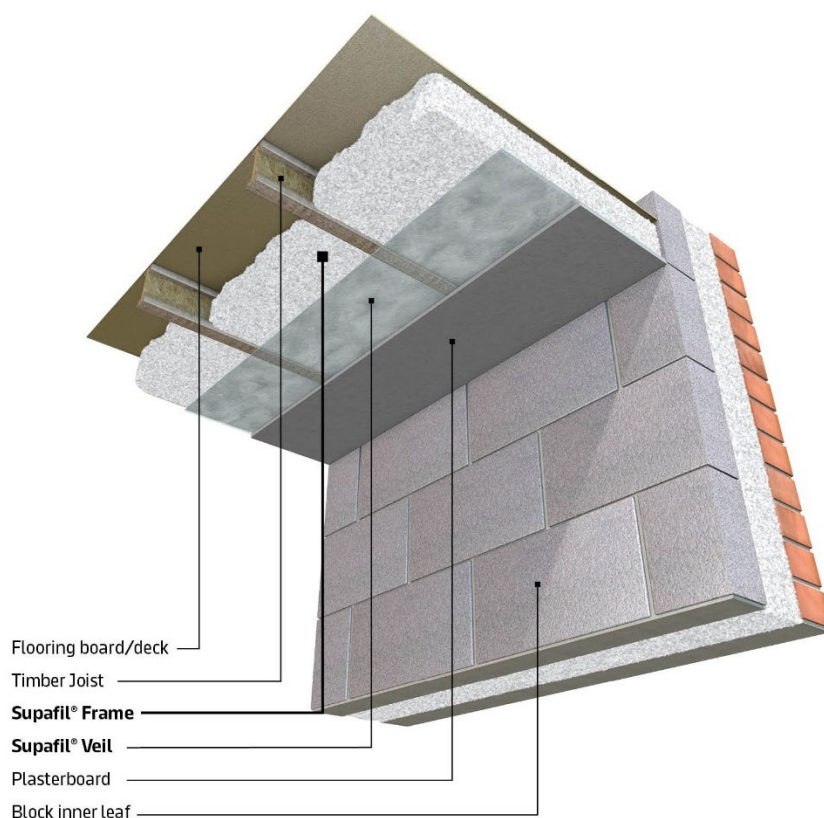
Once installed, the System is not susceptible to damage from environmental conditions normally encountered in the UK.

### 2.2.12 UKCA, UKNI and CE marking

The British and European standard for the System is BS EN 14064-1.

## 2.3 EXAMPLES OF TYPICAL DETAILS

**Diagram 1** - Detail of Supafil® Frame with density of 26 kg/m<sup>3</sup> or 30 kg/m<sup>3</sup> between timber floor joists



The System 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.

All following considerations in this Section relate only to the installation of Supafil® Frame with density of 26 kg/m<sup>3</sup> and 30 kg/m<sup>3</sup>.

### 2.4.1 Project-specific installation considerations

The project-specific design shall be determined from a pre-installation survey.

The primary requirement of the pre-installation survey is to ensure that:

- the floor construction is suitable for the installation of the System and has adequate loadbearing resistance;
- there are no signs of damp on the internal face of the floor;
- the floor is in a good state of repair and show no evidence of damage;
- the presence of any penetrations in the floor, such as chimneys, stoves and flues, is checked;
- the volume of the cavity between timber floor joists and any features are measured correctly, for the purpose of calculating overall density of installation;
- the building is free from moisture, cracks and any defects;
- the density of the System is determined to meet U-value requirements.

### 2.4.2 Preparation

The following considerations apply before starting the work:

- blowing of the System shall not take place until the building into which the System is to be installed is weathertight;
- the density of the glass mineral wool fibres shall be checked regularly prior to, and during, every application within the appropriate timeframe, in accordance with the instructions of the Agrément holder;
- care shall be taken to protect the veil from damage during installation. Regular inspection shall be carried out to ensure it is not damaged. If damage occurs to the veil, it shall be repaired appropriately in accordance with the instructions of the Agrément holder;
- the installation equipment (blowing machine, switches and gauges) shall be inspected prior to each application to ensure they are in good condition and appropriately set up.

The following works shall be undertaken before installing the System:

- wear appropriate personal protective equipment (dust suit, face mask and goggles);
- ensure effective sealing of any gaps to reduce air infiltration;
- enclose the sections to be filled by stapling the veil into the floor joists to create an enclosed cavity to hold the System in place;
- ensure that the veil is not fixed either too tightly or with an excess of material across the floor joist that may cause creases or folds;
- ensure that the distance between staples shall be no more than 75 mm and that the veil layer is stapled across the entire floor area;
- if necessary, re-route or trunk services e.g. electrical cables;
- adequately seal butt joints, fasteners and openings/penetrations (e.g., flues, ducts), as necessary;
- determine the rate of installation by initially filling a breathable bag for a set period of time at the chosen machine setting;
- target density and its nominal blow time shall be identified and recorded prior to the installation.

### 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:

- set-up the blowing machine to the correct parameters for the installation;
- push the nozzle through the veil, so the filling process can commence;
- angle the tip of the injection nozzle towards one corner of the void and start filling that side. Slowly rotate the nozzle from left to right and gradually withdraw back up the floor joist, ensuring that an even and compact density is achieved;
- at the halfway point of the installation, turn the nozzle and push the tip towards the opposite corner of the void and fill the other side in the same way;
- blow the System until the void between the timber floor joists is filled to the appropriate density;
- use a smaller nozzle to inject the System into small gaps or areas and fit tightly around obstructions;
- continue filling all the cavities until the entire floor area is insulated and the required density is achieved;
- withdraw the nozzle from the insertion hole;
- check the density of the installed System by counting the number of bags used and calculating the total volume of the filled area. Alternatively, refer to the Installation Manual for further advice.

### 2.4.4 Finishing

The following finishing is required on completion of the installation:

- inspect the adequacy of installation as per the Agrément holder's guidance;
- remove all equipment;
- fix the plasterboard lining to the timber floor joists;
- clean up any spilled material or debris;
- leave the site as it was found;
- complete job/project declaration form to confirm installation details and report density checks parameters.

## 2.5 INDEPENDENTLY ASSESSED SYSTEM CHARACTERISTICS

### 2.5.1 Moisture control

| Characteristic                        | System component                  | Standard      | Result                |
|---------------------------------------|-----------------------------------|---------------|-----------------------|
| Short-term water absorption ( $W_p$ ) | All glass mineral wool insulation | BS EN 1609    | < 1 kg/m <sup>2</sup> |
| Water vapour resistance ( $\mu$ )     |                                   | BS EN 14064-1 | 1                     |

### 2.5.2 Fire performance

| Characteristic   | System component                  | Standard      | Result |
|------------------|-----------------------------------|---------------|--------|
| Reaction to fire | All glass mineral wool insulation | BS EN 13501-1 | A1     |
|                  | Veil                              |               | E      |

### 2.5.3 Thermal performance

| Characteristic                    | System component                            | Standard    | Result     |
|-----------------------------------|---------------------------------------------|-------------|------------|
| Thermal conductivity, $\lambda_D$ | Supafil® Frame 26 kg/m <sup>3</sup>         | BS EN 12667 | 0.034 W/mK |
|                                   | Supafil® Frame 30 kg/m <sup>3</sup>         |             | 0.033 W/mK |
|                                   | Supafil® MAX Frame 033 35 kg/m <sup>3</sup> |             |            |

#### 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 System, 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 System can inhibit the unseen spread of fire and smoke within concealed spaces
- C2(a) Resistance to moisture - the System does not absorb water by capillary action
- C2(b) Resistance to moisture - a floor incorporating the System can resist precipitation and satisfy this Requirement
- C2(c) Resistance to moisture - the System can contribute to satisfying this Requirement
- L1(a)(i) Conservation of fuel and power - the System can contribute to limiting heat gains and losses through the building
- Regulation 7(1) Materials and workmanship - the System is manufactured from suitably safe and durable materials for their application, and can be installed to give a satisfactory performance
- Regulation 23(1) Requirements relating to thermal elements - the System can contribute to a floor complying with the requirements of L1(a)(i)
- Regulation 26 CO<sub>2</sub> emission rates for new buildings - the System can contribute to satisfying this Regulation
- Regulation 26A Fabric energy efficiency rates for new dwellings - the System can contribute to satisfying this Regulation
- Regulation 26C Target primary energy rates for new buildings - the System can contribute to satisfying this Regulation

##### 3.2.2 Wales

###### The Building Regulations 2010 and subsequent amendments

- B3(4) Internal fire spread (Structure) - the System can inhibit the unseen spread of fire and smoke within concealed spaces
- C2(a) Resistance to moisture - the System does not absorb water by capillary action
- C2(b) Resistance to moisture - a floor incorporating the System can resist precipitation and satisfy this Requirement
- C2(c) Resistance to moisture - the System can contribute to satisfying this Requirement
- L1(a)(i) Conservation of fuel and power - the System can contribute to limiting heat gains and losses through the building
- Regulation 7(1) Materials and workmanship - the System is manufactured from suitably safe and durable materials for their application, and can be installed to give a satisfactory performance
- Regulation 23(1) Requirements relating to thermal elements - the System can contribute to a floor complying with the requirements of L1(a)(i)
- Regulation 26 CO<sub>2</sub> emission rates for new buildings - the System can contribute to satisfying this Regulation
- Regulation 26A Primary energy rates for new buildings - the System can contribute to satisfying this Regulation
- Regulation 26B Fabric performance values for new dwellings - the System can contribute to satisfying this Regulation
- Regulation 26C Energy efficiency rating - the System 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 System is manufactured from acceptable materials and is adequately resistant to deterioration and wear under normal service conditions, provided it is installed in accordance with the requirements of this Agrément

###### 3.2.3.2 Regulation 9 Building Standards - Construction

- 2.4 Cavities - the System can inhibit the unseen spread of fire and smoke within the cavities
- 3.4 Moisture from the ground - the System does not absorb water by capillary action
- 3.10 Precipitation - the System can resist precipitation penetrating to the inner face of the building
- 3.15 Condensation - the System will contribute to limiting the risk of surface and interstitial condensation
- 6.2 Building insulation envelope - the System will contribute to the insulation envelope to resist thermal transfer
- 7.1(a)(b) Statement of sustainability - the System 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 System 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)(a)(i)(ii)(iii)(b) Fitness of materials and workmanship - the System is manufactured from materials which are suitably safe and acceptable as described in this Agrément
- 28 Resistance to moisture and weather - the System can contribute to protecting the building from ground moisture and passage of moisture from the weather to the inner face
- 29 Condensation - the System can be designed and constructed to prevent interstitial condensation
- 35(4) Internal fire spread (Structure) - the System can inhibit the unseen spread of fire and smoke within concealed spaces
- 39(a)(i) Conservation measures - the System can contribute to limiting heat gains and losses through the building
- 40(2) Target carbon dioxide emission rate - a wall incorporating the System shall be designed and constructed not to exceed its target carbon dioxide emission rate
- 43 Renovation of thermal elements - renovation work shall be carried out to ensure a floor complies with Requirement 39(a)(i)

### 3.2.5 Ireland

#### **Building Regulations 1997 (Ireland) 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 System can inhibit the unseen spread of fire and smoke within concealed spaces
- C4 Resistance to weather and ground moisture - a floor incorporating the System can contribute to adequately protecting a building from the passage of moisture from precipitation and condensation
- D1 Materials and workmanship - the System 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 - the System can contribute to limiting heat gains and losses through the building
- L2(a) Conservation of fuel and energy (in existing dwellings) - the System can contribute to limiting heat gains and losses through the building
- L4(a) Conservation of fuel and energy (in existing buildings other than dwellings) - the System can contribute to limiting heat gains and losses through the building
- L5(c) Conservation of fuel and energy (in new buildings other than dwellings) - the System can contribute to limiting heat gains and losses through the building
- Regulation 7 Conservation of fuel and energy in existing dwellings - the System can contribute to satisfying this Requirement
- Regulation 8(c) Conservation of fuel and energy in new dwellings - the System can contribute to satisfying this Requirement

## 3.3 THIRD-PARTY ACCEPTANCE

None requested by the Agrément holder.

## 4 SOURCES

- BS EN ISO 6946:2017 Building components and building elements. Thermal resistance and thermal transmittance. Calculation methods
- BS EN ISO 9001:2015+A1:2024 Quality management systems. Requirements
- BS EN ISO 10211:2017 Thermal bridges in building construction. Heat flows and surface temperatures. Detailed calculations
- BS EN 300:2006 Oriented strand boards (OSB). Definitions, classification and specifications
- BS EN 1609
- 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 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 13501-1:2018 Fire classification of construction products and building elements. Classification using data from reaction to fire tests
- BS EN 14064-1:2018 Thermal insulation products for buildings. In-situ formed loose-fill mineral wool (MW) products. Specification for the loose-fill products before installation
- 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 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
- 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 443:2006 Conventions for U-value calculations
- BRE Report 497:2016 Conventions for calculating linear thermal transmittance and temperature factors
- European Commission Decision 96/603/EC: Commission Decision of 4 October 1996 establishing the list of products belonging to Classes A 'No contribution to fire' provided for in Decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products
- I.S. EN 1995-1-1:2005 Eurocode 5: Design of timber structures. Part 1-1: General. Common rules and rules for buildings
- I.S. EN 1995-1-1/NA:2005+A1:2013 Irish National Annex to Eurocode 5: Design of timber structures. Part 1-1: General. Common rules and rules for buildings
- PAS 2030:2023 Installation of energy efficiency measures in existing dwellings. Specification
- PAS 2035:2023 Retrofitting dwellings for improved energy efficiency. Specification and guidance
- PD 6693-1:2019 Recommendations for the design of timber structures to Eurocode 5: Design of timber structures. General. Common rules and rules for building

**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 System 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           | L Tosi | C Devine | May 2025 |
|          |                       |        |          |          |
|          |                       |        |          |          |
|          |                       |        |          |          |

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