Kiwa Ltd.
Unit 5 Prime Park Way
Prime Enterprise Park
Derby
DE1 3QB
+44 (0)1332 383333
uk.bpenquiries@kiwa.com
www.kiwa.co.uk/bda

BAR-24-327-S-A-UK
BDA Agrément®
Ezy Fit Green Loft System
Loft Insulation System

EZY FIT Ltd.
Commer House
Tadcaster Enterprise Park
Tadcaster
LS24 9JF
+44 (0)1937 222091
sales@ezy-fit.co.uk
www.ezy-fit.co.uk

SCOPE OF AGRÉMENT

This BDA Agrément® (hereinafter 'Agrément') relates to Ezy Fit Green Loft System (hereinafter the 'System'). The System is a loft insulation system comprising of hemp-and-jute-based batts and hemp slabs, used to improve the insulating performance of buildings. The System is for installation in between and over timber joists of loft pitched roofs of existing residential and non-residential buildings.

DESCRIPTION

The System comprises of IndiBreathe Flex hemp-and-jute-based insulation batts, pressure fitted in-between and over the timber joists, and IndiTherm hemp insulation slabs, attached to the loft hatch at ceiling level of a pitched roof.

ILLUSTRATION

THIRD-PARTY ACCEPTANCE

Section 3.3 (Third-Party Acceptance).

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 can be designed to limit the risk of interstitial and surface condensation.

Fire performance - see Section 2.2.8 - the IndiBreathe Flex and IndiTherm insulation used in the System are 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 a pitched roof and can contribute to satisfying the requirements of the national Building Regulations.

Durability - see Section 2.2.10 - 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 2.2.11 - the manufacturers of the constituent products used within the System have responsibility for conformity marking, in accordance with all relevant British and European Product Standards.

CONTENTS

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.

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 use of the System.

Table 1 - Integral components

Component	Description	Dimensions (mm)		
		Length	Width	Thickness
IndiBreathe Flex	hemp-and-jute-based insulation batts, with density of 34 kg/m^3 (± 5 %), λ_D 0.039 W/mK, manufactured in accordance with EAD 040005-00-1201	1,200	600	100
IndiTherm	hemp insulation batts for the loft hatch, with density of 45 kg/m^3 (± 5 %), λ_D 0.039 W/mK, manufactured in accordance with EAD 040005-00-1201			

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:

- supporting roof structure;
- timber joists;
- vapour control layer (hereinafter 'VCL');
- solvent-free adhesive for bonding IndiTherm insulation to the loft hatch.

2.2 POINTS OF ATTENTION TO THE SPECIFIER

2.2.1 Design

2.2.1.1 Design responsibility

Project-specific design is the responsibility of an Approved Installer, trained and approved by the Agrément holder.

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. This shall be developed in close co-operation with the Agrément holder.

The System is installed at ceiling level of existing pitched roofs over the ceiling timber joists, contributing to the thermal performance of the building.

A project-specific design is required. This shall be developed in close co-operation with the Agrément holder and shall give due consideration to:

- BS EN 351-1;
- BS EN 1995-1-1 / I.S. EN 1995-1-1;
- BS EN 14081-1;
- BS 5250;
- BS 5534;
- BS 8000-0;
- BS 8000-6;
- BS 8103-3;
- BS 9250;
- PD 6693-1.

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

Existing pitched roofs shall be in a good state of repair, with no signs of rain penetration or damp. Any signs of damp, rot or disrepair in existing joists and timbers shall be investigated and appropriately rectified prior to installation of the System.

Detailing shall be carried out to a high standard to avoid the ingress of water into the pitched roof construction. The risk of water penetration will cause substantial damage to a pitched roof construction incorporating the System and the thermal benefit of the insulation will be reduced.

Supporting pitched roofs incorporating the System shall be detailed to reduce the risk of damage due to movement in the supporting pitched roof, taking into consideration differential movement in dissimilar materials.

Where applicable (i.e. new building), the guidance given in BRE Report 262 shall be followed in connection with the weathertightness of roof constructions. The Specifier shall select a construction appropriate to the intended exposure zone category in accordance with BS 5534 and BS 8104, paying due regard to the design detailing, workmanship and materials to be used.

To prevent water ingress, due consideration shall be given to the design of joint detailing of rooflights and flue pipes and services penetrations in accordance with BS 6093.

A suitable VCL incorporating lapped and sealed joints shall be applied continuously over the timber joist before applying the IndiBreathe Flex.

The existing supporting structure shall have sufficient strength to withstand all dead and imposed loads that could be applied during installation of the System. The strength and suitability of the supporting pitched roof and the bonding of the insulation to the loft hatch shall be verified by a suitably qualified engineer.

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.

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

The Specifier shall ensure that the following considerations are included in the development of a project-specific design:
- adequacy of supporting pitched roof;
- adequacy of the loft hatch to draught-seal the opening to the loft space, limiting condensation and heat loss;
- thermal transmittance (hereinafter 'U-value') requirements;
- thermal expansion effects of the supporting pitched roof and the System.

A WUFI analysis shall be carried out at project-specific design stage, in accordance with BS EN 15026.

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).

The checks shall include:
- moisture factors;
- breathability of existing pitched roof;
- existing damp issues;
- degree of wind-driven rain;
- ventilation.

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 an Approved Installer, trained and approved by the Agrément holder.

2.2.5 Delivery, storage and site handling
The System components are 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. When required, particular care shall be taken to:
- avoid exposure to direct sunlight high or low temperatures for extended periods of time;
- store flat and above ground level in a well-ventilated, covered area to protect from rain, frost and humidity;
- store away from possible ignition sources, organic solvents, chemicals and plasticisers;
- store components so as to avoid the edges or corners being crushed;
- protect from mud and dirt.

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
Pitched roofs incorporating the System can adequately limit the risk of surface and interstitial condensation when designed in accordance with BS EN 15026. Room spaces shall be ventilated in accordance with BS 5250. Care shall be taken to provide adequate trickle ventilation, particularly in rooms expected to experience high humidity.

The risk of condensation occurring will depend upon the effectiveness of the insulation's installation, the internal and external conditions and the properties and vapour resistance of other materials used in the roof construction.

The Specifier shall carry out a condensation risk analysis (CRA) at design stage on a project-specific basis, in accordance with BS 5250 and BS EN 15026, including an assessment of junctions, openings and penetrations.

For Severe (Zone 3) and Very Severe (Zone 4) exposure zones, in accordance with BRE Report 262, the Specifier shall integrate the ventilation strategy for the building into the design and consider wind-driven rain and permeability of existing materials by modelling, using WUFI analysis.

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

2.2.8 Fire performance
The IndiBreathe Flex and IndiTherm insulation used in the System are classified as European Classification E, in accordance with BS EN 13501-1.

The fire classification of any pitched roof containing the System will depend upon the roof finish and its components. This will also determine the boundary limitations in accordance with the national Building Regulations.

External pitched roofs 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 roof is inhibited.

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

For detailed conditions of use regarding requirements for supporting roof fire performance, cavity closers and barriers, fire stopping of service penetrations and combustibility limitations for other materials and components used in the overall roof construction, Specifiers shall refer to the relevant national Building Regulations.

The insulation incorporated in the System shall not be applied over junctions between roofs and external walls that are required to provide a minimum period of fire resistance. Care shall be taken to ensure continuity of fire resistance at junctions, around openings and service penetrations with fire-resisting elements, in accordance with the national Building Regulations.

The roof structure shall achieve a minimum of 30-minute fire rating if forming an escape route.

Proximity of flues and appliances
The components of the System shall:
- be suitably separated from any potential source of ignition during installation and once incorporated in a roof build-up;
- be adequately separated from any heat-producing appliance, fixed combustion appliance, chimney or incinerator flue pipes passing through a pitched roof. Recommended means of separation are detailed in the Approved Documents supporting the national Building Regulations.

2.2.9 Thermal performance
The System can assist in reducing the U-value of pitched roofs. It is essential that detailing is carried out to a high standard to avoid the ingress of water into the insulation layers and to obtain the full thermal benefit from the installation of the System. Any moisture penetration will affect the thermal conductivity.

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 roof incorporating the System does not exceed the maximum U-value requirement given in the national Building Regulations.

The U-value of a completed pitched roof construction will depend on the insulation thickness, fixing method, type of mechanical fixing and the insulating value of the supporting wall and its internal and external finishes.

For the purposes of U-value calculations and to determine if the requirements of national Building Regulations are met, the thermal resistance and U-value of the roofs incorporating the System shall be calculated according to BS EN ISO 10211 (taking into consideration BS EN ISO 6946, BS EN ISO 10456 and BRE Report 443), using the declared thermal conductivity (λ_D) values of the insulation materials - see Section 2.5.3. Design and declared thermal values of other building materials can be found in BS EN ISO 10456.

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.

Guidance on linear thermal transmittance, heat flows and surface temperatures can be found in the documents supporting the national Building Regulations and BS EN ISO 10211, BRE Information Paper 1/06, BRE Report 262, BRE Report 497, PAS 2030 and PAS 2035.

2.2.10 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 and Ireland.

2.2.11 UKCA, UKNI and CE marking
There is no relevant Product standard for the System.

2.3 EXAMPLES OF TYPICAL DETAILS

Diagram 1 - Typical installation of IndiBreathe Flex fitted between the timber joists and laid in layers on top, perpendicular to the timber joists

Diagram 2 - Typical installation of IndiTherm on loft hatch

2.4 INSTALLATION

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.

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 determine the following:

- there is no existing rising damp and there are no signs of damp on the roof, other than that caused solely by condensation;
- existing pitched roofs are:
  - structurally sound, in a good state of repair and show no evidence of rain or frost damage;
  - watertight, clean and meet the requirements of the relevant national Building Regulations;
- the condition and position of the existing items in the loft, such as flues, downlights, and conduits;
- the work area for any existing damage that may require repairs to be inspected;
- schedule of:
  - repairs and / or additional works necessary to render the loft suitable to receive the System;
  - services, including pipes and electrical items requiring relocation or covering using conduit;
- provisions made for existing ventilation. There shall be no gaps at the perimeter or junctions (such as internal corners), or around openings or service penetrations. Existing gaps shall be sealed before installation;
- insulation areas and required material quantities are confirmed and measured;
- condition of surrounding areas (e.g., floors, walls, ceilings) for suitability are assessed;
- openings are intact with no signs of water leakage.

2.4.2 Preparation

The following considerations apply before starting the work:

- all aspects of safety during installation shall conform to the Health and Safety at Work etc. Act and other applicable Regulations;
- appropriate personal protective equipment (PPE) shall be worn for each stage of the installation;
- the loft shall be checked for suitability in accordance with the survey and risk assessment carried out prior to the work.

The following works shall be undertaken before installing the System:

- clear the loft working area of any obstacles;
- ensure loft has ventilation gaps at the eaves or proper loft ventilation fitted;
- measure any cold-water tank, if present, to ensure you get the correct tank jacket and insulate all water tanks and pipes before laying the loft insulation;
- ensure access into the loft is adequate;
- identify the area to be installed as per the survey avoiding insulation over electric or high-amperage cables or under the water tank;
- install downlight protectors for downlighters or recessed lights, following the manufacturer's instructions carefully;
- install a VCL (outside the scope of the Agrément) across the loft floor area. The membrane should be draped between each set of joists and all overlaps should be taped;
- attach thin strips of hardboard or similar material at the bottom of joists, stapling every 100-150 mm to hold the VCL taut at corners;
- tape and seal any penetrations through the VCL and perimeter walls and around the loft hatch for airtightness.

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:

- pressure-fit the IndiBreathe Flex batts between the timber joists, ensuring no gaps between the batts and joists;
- install a second layer of IndiBreathe Flex, perpendicular to the first layer and ceiling joists;
- to reach the recommended loft insulation depth of 300 mm, install a third layer of IndiBreathe Flex, perpendicular to the second layer;
- when installing near the eaves of a loft, maintain a 25 mm gap to allow airflow;
- attach the IndiTherm insulation onto the loft hatch using a suitable adhesive (outside the scope of the Agrément) in accordance with the Agrément holder's installation manual;

- ensure the loft space is covered sufficiently with insulation.

2.4.4 Finishing

The following finishing is required on completion of the installation:

- ensure insulation is firmly secured to the hatch around the perimeter for a continuous level of insulation throughout the loft area;
- install finishes as required;
- ensure ventilation gaps are maintained;
- all waste to be cleared and bagged for appropriate disposal, and the site left clean and tidy.

Post-installation inspection checks shall be carried out to ensure that the installation has been successfully completed and that the building has not been damaged. These shall be conducted as soon as possible after completion of the work and any defects shall be reported immediately.

2.5 INDEPENDENTLY ASSESSED SYSTEM CHARACTERISTICS

2.5.1 Moisture control

Test	Standard	Result (mean)	
		IndiBreathe Flex	IndiTherm
Water vapour permeability (δ)	BS EN 12086	0.543 mg/(Pa.h.m)	0.573 mg/(Pa.h.m)
water vapour diffusion equivalent air layer thickness (S_d)		0.126 m^	0.064 m^^
Water vapour diffusion resistance factor (μ)		1.313	1.304

^ for a 100 mm thick specimen
^^ for a 40 mm thick specimen

2.5.2 Fire performance

Test	Standard	Result	
		IndiBreathe Flex	IndiTherm
Reaction to fire	BS EN 13501-1	E	

2.5.3 Thermal performance

Test	Standard	Result	
		IndiBreathe Flex^	IndiTherm
Thermal conductivity (λ_D)	BS EN 12667	0.039 W/mK	

^ uncompressed insulation of 40 mm

2.5.5 Other characteristics

Test	Standard	Result	
		IndiBreathe Flex	IndiTherm
Biological resistance - growth of mould fungus	EAD 040005-00-1201 and BS EN ISO 846	No infestation	

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 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

- C2(c) Resistance to moisture - the System can contribute to limiting the risk of interstitial and surface condensation
- L1(a)(i) Conservation of fuel and power - the System can contribute to limiting heat gains and losses through a pitched roof
- 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 Requirements relating to thermal elements - the System can contribute to a pitched roof complying with the requirements of L1(a)(i)

3.2.2 Wales

The Building Regulations 2010 and subsequent amendments

- C2(c) Resistance to moisture - the System can contribute to limiting the risk of interstitial and surface condensation
- L1(a)(i) Conservation of fuel and power - the Systemt can contribute to limiting heat gains and losses through a pitched roof
- 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 Requirements relating to thermal elements - the System can contribute to a pitched roof complying with the requirements of L1(a)(i)

3.2.3 Scotland

The Building (Scotland) Regulations 2004 and subsequent amendments

3.2.3.1 Regulation 8(1)(2) 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

3.2.3.2 Regulation 9 Building Standards - Construction

- 3.15 Condensation - the System can contribute to limiting the risk of interstitial and surface condensation
- 6.2 Building insulation envelope - the System can contribute to satisfying the Requirements
- 7.1(a) Statement of sustainability - the System can contribute to satisfying the relevant Requirements of Regulation 9, Standards 1 to 6, and therefore can 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)(iii)(b) Fitness of materials and workmanship - the System is manufactured from suitably safe and durable materials for its application and can be installed to give a satisfactory performance
- 29 Condensation - the System can contribute to limiting the risk of interstitial and surface condensation
- 39(a)(i) Conservation measures - the System can contribute to satisfying the requirements
- 40(2) Target carbon dioxide emission rate - a pitched roof incorporating the System must be designed and constructed as not to exceed its target CO_2 emission rate
- 43 Renovation of thermal elements - the renovation work is carried out to ensure that the pitched roof complies with requirement 39(a)(i)

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.

- C4 Resistance to weather and ground moisture - pitched roofs incorporating the System can contribute to protecting a building from moisture
- D1 Materials and workmanship - the System is manufactured from suitably safe and durable materials for their application
- L1 Conservation of fuel and power - the System can contribute to limiting heat gains and losses through pitched roofs and can contribute to limiting CO_2 emissions from a building
- L2(a) Conservation of fuel and energy (in existing dwellings) - the System can contribute to limiting heat gains and losses through a pitched roof
- L4(a) Conservation of fuel and energy (in existing buildings other than dwellings) - the System can contribute to satisfying this Requirement
- Regulation 7 Conservation of fuel and energy in existing dwellings - the System 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 System can satisfy the appropriate structural, fire, moisture, thermal, acoustic 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.

4 SOURCES

- BS EN ISO 846:1997 Plastics. Evaluation of the action of microorganisms
- 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 ISO 10456:2007 Building materials and products. Hygrothermal properties. Tabulated design values and procedures for determining declared and design thermal values
- BS EN 351-1:2023 Durability of wood and wood-based products. Preservative-treated solid wood. Classification of preservative penetration and retention
- 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 12086:2013 Thermal insulating products for building applications. Determination of water vapour transmission properties
- 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 14081-1:2016+A1:2019 Timber structures. Strength graded structural timber with rectangular cross section. General requirements
- BS EN 15026:2023 Hygrothermal performance of building components and building elements. Assessment of moisture transfer by numerical simulation
- BS 5250:2021 Management of moisture in buildings. Code of practice
- BS 5534:2014+A2:2018 Slating and tiling for pitched roofs and vertical cladding. 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 8000-6:2023 Workmanship on construction sites. Slating and tiling of roofs and walls. Code of practice
- BS 8103-3:2009 Structural design of low-rise buildings. Code of practice for timber floors and roofs for housing
- BS 8104:1992 Code of practice for assessing exposure of walls to wind-driven rain
- BS 9250:2007 Code of practice for design of the airtightness of ceilings in pitched roofs
- 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
- EAD 040005-00-1201:2015 Factory-made thermal and/or acoustic insulation products made of vegetable or animal fibres
- I.S. EN 1995-1-1:2004 Eurocode 5: Design of timber structures. General. Common rules and rules for buildings
- I.S. EN 1995-1-1:2004/NA:2005 Irish National Anex to Eurocode 5: Design of timber structures. 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 6693-1:2025 Recommendations for the design of timber structures to Eurocode 5: Design of timber structures - General. Common rules and rules for buildings

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	November 2025

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 System specification or constituent elements/components after initial publication of this BDA Agrément®.

For full terms and conditions, refer to Kiwa Ltd.