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

BAR-20-176-P-A-UK
BDA Agrément®
S and B EPS Roof Insulation Boards
Thermal Insulation Layer (Flat Roof Applications)

S and B EPS Ltd.
Dudley
Cramlington
Tyne and Wear
NE23 7PY
T: +44 (0)191 2500818
E: company@sandbeps.com
W: www.sandbeps.com

SCOPE OF AGRÉMENT

This Agrément relates to S and B EPS Roof Insulation Boards (hereinafter the 'Product'), an expanded polystyrene (hereinafter 'EPS') thermal insulation board (hereinafter 'board') which contributes to the thermal performance of roofs. The Product is for use in warm roof systems on flat roofs (with a pitch not greater than 10 º to the horizontal) with limited access, constructed with timber, concrete or metal structural decks. Such areas shall be subject to pedestrian access only. Use in conjunction with a suitable fully supported waterproofing system.

DESCRIPTION

The Product is available as flat or tapered grade 100E, 150E or 200E square rigid EPS board, supplied in a range of thicknesses.

ILLUSTRATION

THIRD-PARTY ACCEPTANCE

None requested by the Agrément holder.

STATEMENT

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

Chris Vurley, CEng
Technical Manager, Building Products

Mark Crowther, M.A. (Oxon)
Kiwa Ltd. Technical Director

SUMMARY OF AGRÉMENT

This document provides independent information to specifiers, building control personnel, contractors, installers and other construction industry professionals considering the safety and fitness for the intended use 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 - the Product can contribute to limiting the risk of interstitial and surface condensation (see section 2.2.9).

Strength - the Product can transfer maintenance traffic loads and wind loads to the roof deck (see section 2.2.10).

Fire performance - the Product is classified as European Classification E, in accordance with BS EN 13501-1 (see section 2.2.11).

Thermal performance - the Product can be designed to meet all required levels and provisions regarding thermal transmittance (hereinafter 'U-value') or thermal resistance (see section 2.2.12).

Durability - the Product shall have a service life durability equivalent to that of the building into which it is incorporated (see section 2.2.13).

UKCA and CE marking - the Agrément holder has responsibility for conformity marking, in accordance with all relevant British and European Product Standards (see section 2.2.14).

CONTENTS

CHAPTER 1 - GENERAL CONSIDERATIONS

1.1 - CONDITIONS OF USE

1.1.1 Design considerations
See section 2.2.

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 must be controlled by a competent person who must be an employee of the installation company.

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

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

1.1.6 Validity
The purpose of this BDA Agrément® is to provide for well-founded confidence to apply the Product within the Scope described. The validity of this Agrément is three years after the issue date, and as published on www.kiwa.co.uk/bda.

1.2 - PRODUCTION CONTROL AND QUALITY MANAGEMENT SYSTEM

Kiwa Ltd. has determined that the Agrément holder fulfils all 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.

CHAPTER 2 - TECHNICAL ASSESSMENT

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

2.1 - PRODUCT COMPONENTS AND ANCILLARY ITEMS

2.1.1 Components included within the scope of this Agrément

The following components are integral to the use of the Product:

EPS board	Description	Compressive stress (10 % deformation) level	Dimensions
EPS 100E	flat or tapered EPS board, manufactured in accordance with BS EN 13163	100	1200 mm by 1200 mm or 600 mm by 1200 mm, supplied in a range of thicknesses
EPS 150E		150	
EPS 200E		200	

2.1.2 Ancillary items falling outside the scope of this Agrément

Ancillary items detailed in this section may be used in conjunction with the Product but fall outside the scope of this Agrément:

- timber, concrete and metal deck - used as a supporting structure;
- vapour control layer (hereinafter 'VCL') - for application to the roof deck, prior to installation of the Product;
- waterproofing membrane - for application to the roof, upon completion of installation of the Product;
- non-solvent polyurethane (PU) adhesive - for bonding Product components;
- mechanical fasteners - for fixing Product components;
- protective finish - decorative decking, gravel or paving slabs.

2.2 - POINTS OF ATTENTION TO THE SPECIFIER

2.2.1 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 installing contractor is responsible for the final as-built design.

2.2.2 Applied building physics (heat, air, moisture)

A competent specialist shall check the hygrothermal behaviour of a project-specific design incorporating the Product and, if necessary, can offer advice in respect of 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 consultant Specialist co-operates closely with the Agrément holder).

2.2.3 General design considerations

Roofs incorporating the Product shall be designed in accordance with BS 6229 or BS EN 13956.

The project-specific design shall take into consideration all elements required in the finished roof.

Falls for flat roof design shall be in accordance with BS 6229, clause 4.4. The design and application for flat roofs (with a pitch not greater than 10 ° to the horizontal) with continuously supported roof coverings shall ensure a minimum finished fall of 1:80 is achieved.

Roof decks shall be designed in accordance with:

- BS EN 1992-1-1 for concrete roof decks;
- BS EN 1995-1-1 for timber roof decks;
- BS EN 1993-1-1 for steel roof decks.

Roof drainage shall be designed in accordance with BS EN 12056-3.

The roof deck shall incorporate a VCL below the Product that is compatible both with the bottom face of the Product and the waterproofing membrane.

Roof waterproofing systems shall be applied in accordance with the relevant manufacturer's specifications.

Loads imposed during construction shall be considered, together with the end use application and dead weight of the optional protective finish. Mechanical plant and machinery shall not be used for the distribution and laying of paving slabs or other elements.

An optional protective finish of paving slabs can be applied to the Product to prevent the spread of fire and to protect the waterproofing membrane and Product components against pedestrian traffic. When using paving slabs as a protective finish, they shall be:

- a minimum of 40 mm thick;
- supported by proprietary bearing spacers as per the manufacturer's instructions, in order to maintain a nominal air gap to assist the removal of water and help to reduce rocking;
- provided with a 150 mm wide edge strip filled with gravel (clean, rounded, aggregate size 20 - 40 mm) against parapets, upstands and around rooflights.

The Product is for use with one of the following waterproofing specifications:

- built-up reinforced bitumen membrane, in accordance with BS 8747, laid in accordance with BS 8217;
- mastic asphalt, laid in accordance with BS 8218;
- single-ply membranes, laid in accordance with BS 6229.

2.2.4 Project-specific design considerations
The project-specific design shall take into account the service life durability required - see section 2.2.13.

The project-specific design shall take into account the requirements of the national Building Regulations - see section 3.2.

A pre-installation survey is required to allow determination of the project-specific design - see section 2.4.3.

2.2.5 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.

2.2.6 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 sort of work.

2.2.7 Delivery, storage and site handling
The Product is delivered in suitable packaging, bearing the Product name, the Agrément holder's name and the BDA Agrément® logo incorporating the number of this Agrément.

Prior to installation, store the Product in accordance with the Agrément holder's requirements. 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 from rain, frost and humidity;
- store away from possible ignition sources.

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

In accordance with BS 6229, roofs incorporating the Product shall be inspected at least twice yearly:
- in autumn, to ensure that rainwater outlets are not blocked, and the roof is free draining;
- in spring, to identify and rectify any damage due to weather actions.

Performance factors in relation to the Major Points of Assessment

2.2.9 Moisture control
Condensation that might accumulate due to ambient temperature fluctuations will naturally drain away in a short period of time without materially affecting the performance of the roof incorporating the Product. Roofs incorporating the Product will adequately limit the risk of interstitial and surface condensation when designed in accordance with BS 5250 and BRE Report 262.

A condensation risk analysis shall be completed at the design stage on a project-specific basis, in accordance with BS 5250.

2.2.10 Strength
The Product has adequate strength and stiffness to transfer maintenance traffic loads and wind loads to the roof deck.

Wind actions shall be calculated in accordance with BS EN 1991-1-4; due consideration shall be given to higher pressure coefficients applicable to corners of the building.

Imposed loads and snow loads shall be calculated in accordance with the recommendations of BS EN 1991-1-1 and BS EN 1991-1-3 respectively.

The Product is capable of withstanding the impacts associated with normal handling, installation and service.

The bond strength between the Product and the VCL, and between the Product and overlay (finishes), shall be adequate to resist the effects of wind suction and thermal cycling likely to be experienced under normal conditions. In areas where high wind speeds can be expected, mechanical fixings shall be considered to supplement the adhesive. The advice of a competent person shall be sought as to the method of fixing, as defined in the relevant clauses of BS EN 1991-1-4.

The design of the Product to support permanent distributed or concentrated loads and permanent roof access is outside the scope of this Agrément.

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

The fire rating of any roof incorporating the Product will depend on the type of protective finish, type of top deck and the nature of the roof waterproofing membrane.

A roof is deemed to be of designation AA/Low Vulnerability, in accordance with BS EN 476-3 or Low Vulnerability (Scotland), when the Product is used with one of the following types of optional protective finish:
- gravel with a thickness of at least 50 mm or a mass ≥ 80 kg/m^2 (aggregate size 4 - 32 mm);
- paving slabs of at least 40 mm thickness, as defined in the national Building Regulations.

Roof covering products defined in Commission Decision 2000/553/ EC, can be considered to fulfil all the requirements for the performance characteristic 'external fire performance' without the need for testing and can be used without restrictions in accordance with the national Building Regulations.

When used with an optional protective finish defined above, a roof incorporating the Product is not subject to any restriction on building minimum boundary and therefore can be used at any distance from the boundary as specified in the national Building Regulations.

A roof is not required to have any specific fire resistance, except when it forms part of a means of escape, when it performs the function of a floor or where part of it is near a boundary. In such situations, provisions for fire resistance apply; resistance to fire shall also be considered in respect of the underside of the means of escape or floor.

2.2.12 Thermal performance
The Product can meet or contribute to meeting all required levels and provisions regarding U-values or thermal resistance, in accordance with the national Building Regulations.

Calculations of U-values shall be carried out by a competent person in accordance with BS EN ISO 6946 and BRE Report 443, using the thermal conductivity values (λ_D) given in Section 2.5.4.

A roof incorporating the Product will achieve the U-value dependent upon on the Product thickness, type of substrate and internal finish, and is to be determined for the roof as a whole.

The Product can contribute to maintaining continuity of thermal insulation at junctions with other elements and minimise thermal bridges and air infiltration. Account shall be taken of the applicable Government Accredited Construction details for Part L, England and Wales, and Accredited Construction details, Scotland.

2.2.13 Durability
The service life durability of 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 should be at least 60-years.

2.2.14 UKCA and CE marking
The European standard for the Product is BS EN 13163.

2.3 - EXAMPLES OF TYPICAL DETAILS

Diagram 1 - Typical section detail

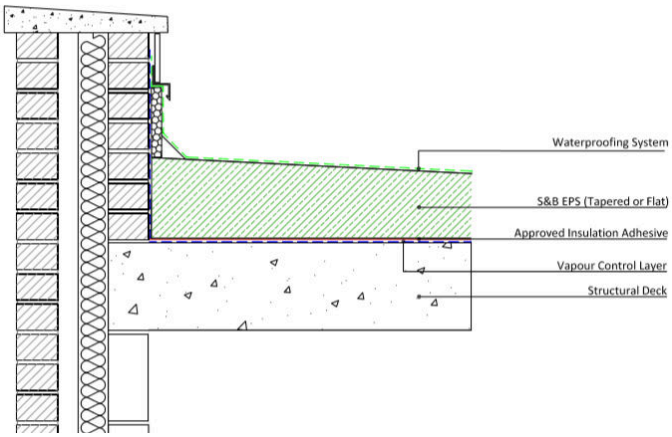
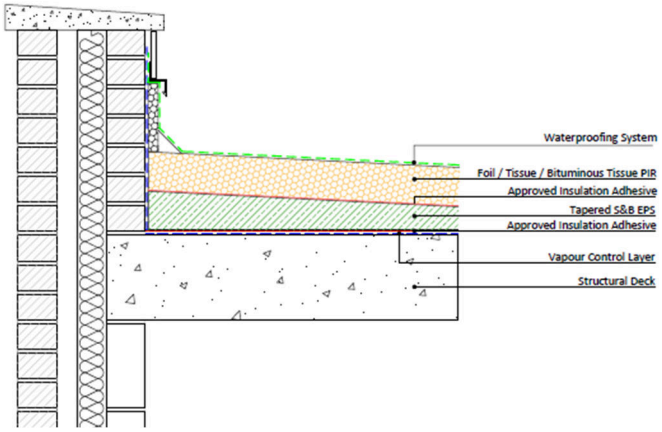


Diagram 2 - Typical EPS/hybrid section detail



2.4 – INSTALLATION

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

2.4.1 Installer competence level
See section 2.2.6.

2.4.2 Delivery, storage and site handling
See section 2.2.7.

2.4.3 Project-specific installation considerations
The project-specific design has been determined from a pre-installation survey.

The primary requirement of the pre-installation survey is to determine the following:
- that existing constructions have flat, level surfaces;
- any necessary repairs have been carried out prior to installation.

2.4.4 Preparation
The following considerations apply before starting the work:
- read the installation instructions carefully prior to installing the Product;
- the existing roof covering shall be true, even, dry, structurally sound and free from dust, grease and other defects;
- the Product can be bonded with solvent-based adhesive systems;

- to prevent moisture being trapped in the Product, it is essential to protect the Product before and during laying. If the Product is accidentally wetted, it shall be replaced with new Product;
- to minimise any errors, it is advisable to temporarily position Product prior to final installation;
- the Product can be cut and easily handled;
- the Product has a surface suitable for hot bitumen bonding.

2.4.5 Outline installation procedure

The detailed installation sequence can be found in full in the Agrément holder's Installation Guidelines.

Pre-cut tapered Product is marked to the requirements of the project-specific design.

The key sequence for installation is:

- the Product shall be laid:
  - in parallel courses, with staggered longitudinal joints (i.e. broken bond), ensuring they are closely butted to avoid gaps;
  - sequentially, in accordance with the position code on the detailed layout drawing supplied. Laying of the main area shall commence at the apex line(s) of the roof;
- the Product shall be fixed with:
  - adhesive for bonding; and/or
  - mechanical fixings;
- any exposed edges of the Product (e.g. at roof vents and upstands) shall be sealed with waterproofing in accordance with normal practice;
- the Product shall be covered with waterproofing membrane as soon as practically possible.

2.4.6 Finishing

The following finishing is required on completion of the installation:

- an optional protective finish can be applied to the Product. Types of protective finish include:
  - gravel;
  - paving slabs;
  - decorative decking.

2.5 - INDEPENDENTLY ASSESSED PRODUCT CHARACTERISTICS

2.5.1 Moisture control

Test	Standard	Result		
		EPS 100E	EPS 150E	EPS 200E
Water vapour permeability (δ)	BS EN 13163	0.009 - 0.020 Mg/(Pa·h·m)	0.009 - 0.020 Mg/(Pa·h·m)	0.006 - 0.015 Mg/(Pa·h·m)
Water vapour diffusion resistance factor (μ)		30 to 70	30 to 70	40 to 100
Declared long term absorption by immersion total (WL(T))	BS EN 12087	4.5 %	6 %	6 %
Declared long term absorption by immersion partial (WL(P))		0.1 kg/m^2	0.1 kg/m^2	-

2.5.2 Strength

Test	Standard	Result		
		EPS 100E	EPS 150E	EPS 200E
Minimum compressive stress @ 10% compression	BS EN 826	CS(10)100	CS(10)150	CS(10)200
Bending strength	BS EN 12089	150 kN/m^2	200 kN/m^2	250 kN/m^2

2.5.3 Fire performance

Test	Standard	Result		
		EPS 100E	EPS 150E	EPS 200E
Reaction to fire	BS EN 13501-1	E		

2.5.4 Thermal performance

Test	Standard	Result		
		EPS 100E	EPS 150E	EPS 200E
Thermal conductivity (λ_D)	BS EN 12667	0.036 W/mK	0.035 W/mK	0.034 W/mK

CHAPTER 3 - CDM, NATIONAL BUILDING REGULATIONS AND THIRD-PARTY ACCEPTANCE

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

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

3.2 - THE NATIONAL BUILDING REGULATIONS

In the opinion of Kiwa Ltd., the Product, if installed and used in accordance with Chapter 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 compliance of any project-specific design with the national Building Regulations.

3.2.1 - ENGLAND
THE BUILDING REGULATIONS 2010 AND SUBSEQUENT AMENDMENTS

- A1 Loading - the Product can transfer maintenance traffic loads, imposed and wind loads to a roof deck
- C2(c) Resistance to moisture - the Product can contribute to limiting the risk of condensation
- L1A(a)(i) Conservation of fuel and power in new dwellings - the Product can contribute to limiting heat gains and losses through a roof
- L2A(a)(i) Conservation of fuel and power in new buildings other than dwellings - the Product can contribute to limiting heat gains and losses through a roof
- 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 23 Requirements relating to thermal elements - the Product can contribute to a roof complying with the requirements of L1(a)(i)
- Regulation 26 CO_2 emission rates for new buildings - the Product can contribute to satisfying this Regulation
- Regulation 26A Fabric energy efficiency rates - the Product can contribute to satisfying this Regulation

3.2.2 - WALES
THE BUILDING REGULATIONS 2010 AND SUBSEQUENT AMENDMENTS

- A1 Loading - the Product can transfer maintenance traffic loads, imposed and wind loads to the roof deck
- C2(c) Resistance to moisture - the Product can contribute to limiting the risk of condensation
- L1A(a)(i) Conservation of fuel and power in new dwellings - the Product can contribute to limiting heat gains and losses through a roof
- L2A(a)(i) Conservation of fuel and power in new buildings other than dwellings - the Product can contribute to limiting heat gains and losses through a roof
- 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 23 Requirements relating to thermal elements - the Product can contribute to a roof complying with the requirements of L1(a)(i)
- Regulation 26 CO_2 emission rates for new buildings - the Product can contribute to satisfying this Regulation
- Regulation 26A Fabric energy efficiency rates - the Product can contribute to satisfying this Regulation
- Regulation 26B Fabric performance values for new dwellings - the Product can contribute to satisfying the Regulation

3.2.3 - SCOTLAND
THE BUILDING (SCOTLAND) REGULATIONS 2004 AND SUBSEQUENT AMENDMENTS

3.2.3.1 Regulations 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, provided it is installed in accordance with the requirements of this Agrément

3.2.3.2 Regulation 9 Building Standards - Construction

- 1.1 Structure - the Product can transfer maintenance traffic loads, imposed and wind loads to a roof deck
- 3.15 Condensation - the Product can contribute to limiting the risk of condensation
- 6.1(b) Carbon dioxide emissions - the Product can contribute to satisfying the Requirements
- 6.2 Building insulation envelope - the Product can contribute to satisfying the Requirements
- 7.1(a)(b) Statement of sustainability - the Product 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 Product can contribute to a construction meeting a higher level of sustainability as defined in this Standards

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(a)(i)(iii)(iv)(b) Fitness of materials and workmanship - the Product is manufactured from materials which are suitably safe and acceptable for use as thermal insulation
- 29 Condensation - the Product can contribute to limiting the risk of condensation
- 30 Stability - the Product can transfer maintenance traffic loads, imposed and wind loads to a roof deck
- 39(a)(i) Conservation measures - the Product can contribute to satisfying the requirements

- 40(2) Target carbon dioxide emission rates - a flat roof incorporating the Product can be designed and constructed as not to exceed its target CO_2 emission rate
- 43 Renovation of thermal elements - the renovation work carried out to ensure the flat roof complies with requirement 39(a)(i)

3.3 - THIRD-PARTY ACCEPTANCE

None requested by the Agrément holder.

CHAPTER 4 - SOURCES

- BS EN ISO 6946:2017 Building components and building elements. Thermal resistance and thermal transmittance. Calculation methods
- BS EN 826:2013 Thermal insulating products for building applications. Determination of compression behaviour
- BS EN 1991-1-1:2002 Eurocode 1. Actions on structures. General actions. Densities, self-weight, imposed loads for buildings
- NA to BS EN 1991-1-1:2002 UK National Annex to Eurocode 1. Actions on structures. General actions. Densities, self-weight, imposed loads for buildings
- BS EN 1991-1-3:2003+A1:2015 Eurocode 1. Actions on structures. General actions. Snow loads
- NA+A2:18 to BS EN 1991-1-3:2003+A1:2015 UK National Annex to Eurocode 1. Actions on structures. General actions. Snow loads
- BS EN 1991-1-4:2005+A1:2010 Eurocode 1. Actions on structures. General actions
- NA to BS EN 1991-1-4:2005+A1:2010 UK National Annex to Eurocode 1. Actions on structures. General actions
- BS EN 1992-1-1:2004+A1:2014 Eurocode 2. Design of concrete structures. General rules and rules for buildings
- NA+A2:14 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 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 12056-3:2000 Gravity drainage systems inside buildings. Roof drainage, layout and calculation
- BS EN 12087:2013 Thermal insulating products for building applications. Determination of long term water absorption by immersion
- BS EN 12088:2013 Thermal insulating products for building applications. Determination of long term water absorption by diffusion
- BS EN 12089:2013 Thermal insulating products for building applications. Determination of bending behaviour
- 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 13163:2012+A2:2016 Thermal insulation products for buildings. Factory made expanded polystyrene (EPS) 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 13956:2012 Flexible sheets for waterproofing. Plastic and rubber sheets for roof waterproofing. Definitions and characteristics
- BS 5250:2011+A1:2016 Code of practice for control of condensation in buildings
- BS 6229:2018 Flat roofs with continuously supported flexible waterproof coverings. Code of practice
- BS 8217:2005 Reinforced bitumen membranes for roofing. Code of practice
- BS 8218:1998 Code of practice for mastic asphalt roofing
- BS 8747:2007 Reinforced bitumen membranes (RBMs) for roofing. Guide to selection and specification
- BRE Report 262:2002 Thermal insulation: avoiding risks
- BRE Report 443:2006 Conventions for U-value calculations

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

CHAPTER 5 - AMENDMENT HISTORY

Revision	Amendment description	Author	Approver	Date
-	First Issue	C Devine	C Vurley	May 2021

CHAPTER 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.

For full terms and conditions refer to Kiwa Ltd.