



Build-Offsite Property Assurance Scheme (BOPAS)

BOPAS Durability and Maintenance Assessment

Report for: Etopia UK Ltd.

LRQA Ref: PRJ11100551056-1

Assessment Dates:	13.05.2026
Assessment Location:	Desk top assessment
Assessment Criteria:	Durability and Maintenance
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1. Executive Summary

BOPAS was established to serve the lenders' interests and deliver repeatability of the process as any variability has the potential to translate into performance variability that can impact warranty exposure, lender exposure, and homeowner exposure. The BOPAS certification seeks to ensure transparency of process within the systems established by the assessed MMC Providers that deliver the construction system which is the subject of this report.

The durability assessment is confirmation that the design and construction processes address the most likely causes of premature failure, such that the building should achieve an expected design life of a minimum of 60 years. An extended design life may be evaluated to 75 or 100 years as may be required by the client.

The durability of the Etopia UK Ltd. E.I. SIP Structural Insulated Panel building system, in accordance with the designs and processes submitted to LRQA assessors, is assessed to be durable for a minimum term of 60 years, subject to the limitations of scope as detailed section 2 of this report.

Report Version	Date
Final version v.01	13.05.26
Draft v.04 updated with client comments	09.02.26
Draft v.03 updated with client comments	28.01.26
Draft v.02 updated draft for comment	19.01.26
Draft v.01 initial draft for comment	08.11.25

2. Design Introduction and Durability Assessment Qualifications

Design Overview

Etopia UK Ltd., 21-24 Millbank, London, SW1 4QP, designs, manufactures and supplies a Structural Insulated Panel (E.I. SIP) building system, intended for residential, commercial and educational use up to four storeys in height, but may go higher subject to structural verification and fire protection requirements. The factory-prepared panels are transported to specific site locations in the United Kingdom and assembled by an accredited and approved installer on a pre-prepared base to satisfy the required project configurations. Site operations include installing all necessary project-specific external and internal components, materials, and assemblies, to provide a structural shell for finishing by others.

Durability Limitations of Scope:

Maximum of four storeys high for residential, commercial and educational use.

Name	Job title
<i>Bill Hampton</i>	Managing Director

3. Description of Etopia UK Ltd. E.I. SIP Structural Insulated Panel Building System

The system comprises nominally 185mm thick panels made up from two skins of 11mm OSB3 sheathing bonded to a 163mm thick blown polyurethane core insulation. The wall panels are available in increments up to 1200mm wide and to a maximum height of up to 2400mm. Panels are supplied in factory cut shapes and sizes in accordance with the design of the building being constructed. End gable panels are made up of several panel profiles. Panels are joined together using 12mm plywood structural splines, both horizontally and vertically, and fixed using 51 x 2.8mm galvanised ringshank nails at specified centres.

At ground level, a 38 x 185mm C16 grade Class 2 (UC2) treated softwood sole plate on top of a 225mm wide DPC and fixed to the sub-structure below by fixings specified by the engineer.

The intermediate floor skirt comprises a 139 x 315/450mm glulam timber beam manufactured to BS EN 1480. This skirt has a 12mm structural plywood skirt to BS EN 314-2 and EN 636-2, with 11mm OSB3 to the internal and external face. This element may also be used vertically by replacing the 6mm packer with a steel flitch plate to form sway frames if required for structural stability.

At roof level, a binder plate is formed of 2no. 38 x 136 C16 timbers fixed to 2no. plywood splines. This is fixed using 51 x 2.8mm galvanised ringshank nails at specified centres determined by the structural engineer for each project.

Where required, holding down devices to prevent sliding/overturning will be provided to secure the panels to the sub-structure. Each project is subject to individual structural verification.

Ground floor construction is site specific; however, preferred construction is insitu concrete slab or beam and block. These are constructed by others to meet the level and out-of-true tolerances specified by the system designer. Maintenance of the specified tolerances is critical in achieving accurate assembly of the panels on site.

External wall claddings are project specific and may typically include, conventional masonry, conventional cladding systems, e.g., timber cladding, insulated render systems, brick slip systems, rainscreen cladding systems. All cladding system installations require individual design that falls outside the scope of this assessment. Internal finishes are generally 12.5mm plasterboard fixed to typically 25 x 50mm timber vertical battens at 600mm centres to form a service zone. Where large openings are required in wall panels, or where panels are supported over voids, for example, additional structure may be required. Additional support typically takes the form of glulam timber beams, though steelwork may be used in specific instances. These will be included in the structural design by Etopia UK Ltd. for each individual project.

Vapour control layers are not generally required in SIP construction in the UK, assuming that all panel junctions are adequately sealed. However, a condensation risk analysis at the design stage by a competent specialist in accordance with BS 5250 to determine if a vapour control layer is required should be carried out.

The design of upper floors is project specific but typically comprises 22mm P5 chipboard or OSB3 decking on engineered lattice floor joists. Though supplied by others, these are typically installed by Etopia UK Ltd.

Internal walls, including party/separating walls, are generally constructed of minimum 89mm deep C16 softwood studs, sole plates, headers and noggins. Where required for structural reasons walls may be sheathed with OSB3 for racking purposes as determined by the structural engineer.

Pitched roofs are generally constructed of conventional trussed rafters, though loose rafters and purlins may be used. Flat roofs may also be accommodated. Trussed rafters are designed and supplied by others, though they are generally installed by Etopia UK Ltd. Other roof types will be included within the structural design carried out by Etopia UK Ltd.

The Etopia UK Ltd. E.I. SIP system must be designed and erected in accordance with the current edition of the Etopia UK Ltd. system manual. To achieve the desired service life, all components above damp-proof course level must be protected against direct and indirect moisture.

The system holds current third party certification: Kiwa BAW-25-384-S-A-UK BDA Agrément Certificate. This document has been utilised to inform this assessment.

4. Limits on the scope of this assessment

- Maximum four storeys for residential, commercial and residential use (may go higher subject to structural verification and fire protection requirements);
- Panels in contact with the foundations/sub-structure must be fully isolated from contact with moisture from the ground and external sources, and be a minimum 150mm above finished ground level;
- Minimum 50mm ventilated and drained cavity behind conventional masonry cladding;
- Minimum 25mm drained and ventilated cavity behind external wall claddings, or as required by the system designer [open jointed and rainscreen systems utilising pressure equalisation may require a wider cavity to be effective];
- Some latent defects insurers may require a minimum 15mm drained cavity behind insulated render and insulated brick slip systems in all exposure areas. This is intended to minimise the risk of water penetration damaging the structural frame, particularly at openings in the walls;

- Thermal checks must be undertaken on each project to ensure that there is no risk of interstitial condensation and/or cold bridging which may impact the durability of the panels;
- Where freestanding balconies are connected to the panels for restraint purposes, all connections must be designed by a structural engineer and must not affect the durability of the panels;
- Etopia UK Ltd. must be contracted for the design, manufacture, supply of the structure; erection will be contracted to approved and accredited installers;
- A qualified structural engineer suitably experienced in the design of this type of structure must be engaged for the structural design and analysis.

5. Specific elements outside the scope of this assessment

- Foundations;
- Ground floors/podiums;
- Structural elements not forming part of the panels;
- Common parts including protected areas, service ducts and lift shafts;
- Windows and doors;
- Balconies;
- Parapets;
- Roofs;
- Internal finishes, fixtures and fittings;
- All building services;
- All building drainage.

6. Nature of this Durability Assessment

This Durability Assessment is intended to give confidence to funders and investors that Etopia UK Ltd. E.I. SIP Structural Insulated Panel (SIP) building system, when used within the constraints listed above, can provide a durable and reliable structure for a period more than 60 years, subject to appropriate maintenance as indicated in the schedule below. No liability for the accuracy of this data will be accepted by LRQA Ltd.

7. Component Durability and Maintenance Assessment

Component lives assessed upon the basis that the components are suitable for the intended end use, and are designed, manufactured, installed, and maintained in accordance with the manufacturer's recommendations, relevant codes, guidance, and good building practice.

Key Component Durability & Maintenance:

Structural timbers – Treated softwood to BS EN 335-1: UC2 – Component life 60 years

Softwood timber framing, base plates. Species: Spruce, Pine or Fir. Strength: Minimum Grade GS (General Structural) and Strength Class C16 to BS 4978. Structural strength class and section dimensions as required by structural engineer's calculations. Preservative treatment for 60 years design life to BS 8417 for Use Class 2 to BS EN 335.

Maintenance requirements and frequency:

Check annually ground level is a minimum 150mm below wall dpc level.

Structural Insulated Panels (SIP) – Component life 60 years

Skin: Oriented Strand Board (OSB3), thickness 11 mm minimum; Core: Closed cell polyurethane, Density: 38 - 45kg/m³; with third party approval.

Maintenance requirements and frequency:

Nil

Panel jointing splines - plywood – Component life 60 years

Plywood to BS EN 636-2; bond quality Class 2 to BS EN 314-2 (minimum); Hazard Use Class 2 to BS EN 335.

Maintenance requirements and frequency:

Nil

General purpose sheathing – Oriented Strand Board (OSB) – Component life 60 years

OSB to BS EN 300 Types OSB 3, OSB 4; with 3rd party certification.

Maintenance requirements and frequency:

Nil

Breather membrane – spunbonded polypropylene breather membrane – Component life 60 years

3rd party approved spunbonded polypropylene breather membrane to BS EN 13859-2; not exposed to UV light.

Maintenance requirements and frequency:

Nil

Upper floors and roof joists – timber-steel based 'I' joists – Component life 60 years

Timber-steel composite I-beams; solid timber or wood based panel flange; low carbon steel webs; galvanized minimum 275g/m², tooth connected.

Maintenance requirements and frequency:

Nil

Upper floors and roof joists – solid softwood – dry conditions only – Component life 60 years

Structural softwood. Species: Spruce, Pine or Fir. Strength: Minimum Grade GS (General Structural) and Strength Class C16 to BS 4978. Service situation: dry internal; Use Class 2 to BS EN 335. Preservative treatment against rot or Longhorn Beetle to BS 8417 to maintain service life where conditions dictate.

Maintenance requirements and frequency:

Nil

Support beams – glued laminated timbers – dry conditions only – Component life 60 years.

Glued laminated timbers manufactured to BS EN 1480 from European Redwood or Whitewood; species; spruce, pine or fir; natural durability class 5 to BS EN 350-1: not durable. Adhesive Type 1 to BS EN 301. Sections to BS EN 14080 and engineer's calculations. Use Class 1 to BS EN 335-1; well-ventilated and dry with no risk of exposure to wetting.

Maintenance requirements and frequency:

Nil

Secondary steelwork – coated hot rolled steel – Component life 60 years

Factory primed structural steel, minimum 4mm thick, internal environment class C2 to BS EN ISO 12944

Maintenance requirements and frequency:

Nil

Roof trusses – dry conditions only – Component life 60 years

Untreated softwood roof trusses to BS EN14250 and BS EN 1995. Strength: C16 minimum.

Where conditions dictate preservative treatment against rot or Longhorn Beetle to BS 8417 to maintain 60 service life.

Maintenance requirements and frequency:

Nil

Floor decking – wood particle board – Component life 60 years

Particleboard to BS EN 312 Type P5/P7

Maintenance requirements and frequency:

Service life assumes minimum carpet and underlay in living areas and impervious floor coverings in areas subject to moisture, such as kitchens and

bathrooms. Floor coverings must be maintained throughout the service life of the building.

Galvanised sheet steel fixing components – joist hangers, clips etc. in dry service conditions – Component life 60 years

Pre-galvanized low carbon steel sheet to BS EN 10346 Z275

Maintenance requirements and frequency:

Nil

8. List of documents upon which Durability Assessment based

Etopia UK Ltd. – System Declaration Document.

Etopia UK Ltd. – Technical Details Manual.

Etopia UK Ltd. – General panel arrangement drawings.

Etopia UK Ltd. – Party wall details.

Etopia UK Ltd. – E.I. SIP Manufacturing Tolerance OSB.

Etopia UK Ltd. – E.I. SIP OSB Shell Erection Check List.

Etopia UK Ltd. - E.I. SIP Shell Erection Manual Solid Glulam OSB.

Etopia UK Ltd. - E.I. SIP OSB Shell Erection Check List.

Etopia UK Ltd. - E.I. SIP Manufacturing Tolerance OSB.

Etopia UK Ltd – Services Methodology Statement.

Structural Solutions – Structural calculations – Windsor 4D36 – Superstructure.

Alex Rius Consultants – E. I SIP Thermal and Condensation Assessment Report.

BASF – Technical data Sheet BASF Elastapor H 1236/3 PU rigid foam.

Kiwa Ltd – BAW-25-384-S-A-UK BDA Agrément Certificate for E.I. SIP OSB Structural Insulated Panel (SIP) System.

Effectis – Resistance to Fire in accordance with BS EN 13501-2: 2023: E.I. SIP 11mm OSB (IN to OUT) Loadbearing Wall; Report no. Eul-25000160: 25.05.2025.

Effectis – Draft Resistance to Fire in accordance with BS EN 1363-1: 2020 and BS EN 1365-:2012: E.I. SIP 11mm OSB, 60 Minute Panel Loadbearing Wall: 100kN load applied. Report no. EUI-25-B-000469: 22.09.2025. Effectis – Draft Resistance to Fire in accordance with BS EN 1363-1: 2020 and BS EN 1365-:2012: E.I. SIP 11mm OSB3 (IN and OUT): Loadbearing Wall: 100kN load applied. Report no. EUI-25-B-000515: 05.09.2025.

Lucideon – Racking Testing of E.I. SIP Effects Panels to BS EN 594: 2011 Timber Structures – Test methods – Racking strength and stiffness of timber frame wall panels. Report no. N251433 (QT-77768/2/JB)/Ref. 1. 25.07.2025

Lucideon – Racking Testing of E.I. SIP SIP Panels to BS EN 12114: 2000 Thermal Performance of Buildings – Air Permeability of Building Components and Building Elements – Laboratory Test Method. Report no. N251433 (QT-77768/2/JB)/Ref. 2. 25.07.2025

Lucideon – Wind Loading test of E.I. SIP OSB SIP Panels: Report no. N251433 (QT-77768/2/JB)/Ref. 3. 30.07.2025.

Lucideon – Load Testing of E.I. SIP SIP Panels to BS EN 1995-1-1: 2004 + A2: 2014: Eurocode 5: Design of Timber Structures – Part 1-1-General – Common Rules and Rules for Buildings. Report no. N251433 (QT-77768/2/JB)/Ref. 4 12.08.2025.

Lucideon – Load Testing of First Floor E. .I SIP SIP Panels to BS EN 1995-1-1: 2004 + A2: 2014: Eurocode 5: Design of Timber Structures – Part 1-1-General – Common Rules and Rules for Buildings. Report no. N251433 (QT-77768/2/JB)/Ref. 4. 13.08.2025.

Lucideon – Load Testing of OSB 3Wall SIP Panels to BS EN 1995-1-1: 2004 + A2: 2014: Eurocode 5: Design of Timber Structures – Part 1-1-General – Common Rules and Rules for Buildings. Report no. UK241321 (QT-71701/3/JB)/Ref. 4. 18.09.2024.

Lucideon – Compressive and Eccentric Load Testing of OSB Clad 3Wall SIPs Panels. Report no. UK2431341 (QT-75735/1/KNA)/Ref. 2. 20.11.2024.

Etopia UK Ltd. Responses to BLP inquiries.

9. Durability Assessment Conditions

Assignment of this Durability Assessment is prohibited without the written consent of LRQA Limited. If assignment is permitted by LRQA Limited, there shall be no assignment of the benefit of this Durability Assessment beyond the permitted assignee to any third party (or its permitted assignees).

No liability or responsibility can be accepted to any third party (or its permitted assignees) in connection with and, or in reliance on the contents of this Durability Assessment either in whole or in part and, for the avoidance of doubt, no third party (or its permitted assignees) shall have or hold any claim against LRQA Limited in connection with and, or in reliance on the contents of this Durability Assessment either in whole or in part, in contract or in tort, in negligence, for breach of statutory duty or otherwise (other than fraud).

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