

EI SIP Product Data Sheet

185 mm structural insulated wall panel system

EI SIP is Etopia's structural insulated panel system for the loadbearing inner leaf of external walls in new residential and non-residential buildings. It combines structural OSB3 facings with a rigid polyurethane insulation core to provide structure and thermal insulation in one factory-made panel.



Product overview

Property	Product data
Panel construction	11 mm OSB3 / 163 mm rigid PUR insulation / 11 mm OSB3
Nominal panel size	185 mm thick x 1,125 mm wide x 2,400 mm high
Core density and conductivity	42 kg/m ³ ; initial thermal conductivity 0.026 W/(m·K)
Primary use	Loadbearing inner leaf of external walls
Building types	New residential and non-residential buildings
Connections	Tongue-and-groove panel edges, plywood splines and galvanised steel fixings

System position

Panels are designed for each project and may be supplied individually or pre-assembled. Floors, roofs, foundations, external cladding, internal linings and service installations require project-specific design and fall outside the core panel scope unless expressly included in the project specification.

Independent assurance. The EI SIP OSB system is covered by Kiwa BDA Agrément BAW-25-384-S-A-UK and a BOPAS durability and maintenance assessment. The Agrément states that the system is safe and fit for its intended use when specified, installed and used in accordance with its requirements.

Technical performance

The values below are drawn from the current system evidence. Final design values must be confirmed for the proposed building, geometry, loads, finishes, junctions and exposure conditions.

Thermal and moisture performance

Measure	Result	Basis
Modelled panel U-value	0.14 W/(m ² ·K)	1,125 mm EI SIP OSB panel including panel junction; EN ISO 6946 and EN ISO 10211 modelling
Linear thermal transmittance	0.003 W/(m·K)	Modelled panel junction
PUR thermal conductivity	0.026 W/(m·K)	Initial value; BS EN 12667
Interstitial condensation	None predicted	Modelled OSB construction using Bristol climate data and stated internal conditions
Water vapour resistance factor	OSB3 wet cup 30; dry cup 50; PUR 60	BS EN 12524 and BS EN ISO 10456

The completed wall U-value depends on the project-specific wall build-up, junctions, fixings, internal lining and external finish. A project-specific condensation risk analysis in accordance with BS 5250 is required. For either fire configuration described below, the Novia 500G VirginPoly VCL must be installed in the location and manner stated in the relevant fire evidence.

Structural performance

Assessed characteristic	Result	Qualification
Maximum wind test pressure	24.88 kN/m ²	BS EN 12424; test stopped when maximum airbag capacity was reached, with no failure
Design wind loading	8.29 kN/m ²	Maximum test pressure divided by a safety factor of 3
Design UDL, eccentric	30.0 kN/m	Test assembly and loading defined in the Agrément
Axial characteristic load with ring beam	131.6 kN/m	185 mm SIP test assembly
Axial characteristic load without ring beam	132.7 kN/m	185 mm SIP test assembly
Characteristic racking strength F _{max}	32.15 kN	BS EN 594 test assembly

Air permeability at 500 Pa

Test configuration	Air permeability	Standard
Vertical joint	0.0071 m ³ /(m ² ·s)	BS EN 12114:2000
Horizontal joint	0.0075 m ³ /(m ² ·s)	BS EN 12114:2000
Vertical and horizontal joints	0.018 m ³ /(m ² ·s)	BS EN 12114:2000

Structural design. A suitably qualified engineer must verify every completed wall and its connections, openings, foundations and interfaces for the actual dead, imposed, wind and temporary installation loads. The tabulated results are not a substitute for project-specific structural design.

Fire performance

System	Fire-side specification	Performance position
30-minute wall (REI 30)	One layer of 12.5 mm Gyproc Wallboard on 25 x 50 mm timber battens, with Novia 500G VirginPoly VCL against the inner OSB3 face.	Efectis assessment EUI-25-000632, based on test EUI-24-B-000515, concludes REI 30; maximum assessed height 3,000 mm and maximum load 100 kN.
60-minute wall (REI 60)	Two layers of 12.5 mm Gyproc Wallboard on 25 x 50 mm timber battens, with Novia 500G VirginPoly VCL over the inner OSB3 face.	60-minute system claim under Kiwa BDA Agrément BAW-25-384-S-A-UK; supporting test continued to 72 minutes with no failure.

Durability, installation and specification

Durability

The BOPAS durability assessment concludes that the EI SIP building system is durable for a minimum term of 60 years when designed and constructed in accordance with the submitted system and subject to the report's limitations and maintenance conditions. Its assessment scope covers residential, commercial and educational use up to four storeys.

- Protect all components above damp-proof course level from direct and indirect moisture; install a DPC beneath sole plates and keep the system at least 150 mm above ground level.
- Provide continuous weather protection, sealed junctions and project-specific detailing at openings, services and movement joints.
- Repair damaged components promptly in accordance with Etopia's maintenance and repair requirements.

Design and installation requirements

Requirement	Specification position
Project design	Required for structure, thermal performance, moisture risk, fire strategy, foundations and interfaces
Installer	Approved installer trained and approved by Etopia
External face	Continuous airtight and watertight breather membrane with sealed joints and penetrations
Internal face	Vapour control layer as defined by the selected fire build-up and project-specific condensation risk analysis
Finishes	Weatherproof external cladding and appropriate internal linings to the project specification
Compliance	Final project must be checked against the relevant national Building Regulations and warranty-provider requirements

Source documents

1. Kiwa BDA Agrément BAW-25-384-S-A-UK, E.I.SIP OSB Structural Insulated Panel System, first issue May 2026.
2. Efectis fire test report EUI-25-B-000469 Revision 1, dated 4 February 2026. This revision cancels and replaces the original report.
3. Efectis fire test report EUI-24-B-000515, EiSip 11 mm OSB3 loadbearing wall, tested 5 September 2024.
4. Efectis assessment EUI-25-000632, 30-minute OSB3 loadbearing wall with Novia 500G VirginPoly VCL; valid to 19 December 2030.
5. Alex Rius Consultants, EiSip Thermal and Condensation Assessment Report, dated 20 August 2024.
6. LRQA BOPAS Durability and Maintenance Assessment PRJ11100551056-1, final version v.01, assessed 13 May 2026.
7. Etopia test data: wind loading to BS EN 12424 and air permeability to BS EN 12114:2000.

Important specification note. This summary is not a design guide, fire classification report or substitute for the complete sources. The current Agrément, fire evidence, system manual and project-specific design take precedence. Confirm the specification with Etopia before tender or construction.