SBEM Specification Document

Storage World, Unit 4 Ambrose House, Ambrose Street, Manchester

Prepared on behalf of:

GK Construction

BE 18953

Build Energy Ltd
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Issue	Issue Date	Written by	Notes
V1	31/10/2025	Ceris Fussell	First issue
V2	13/04/2026	Ceris Fussell	As built issue
V3	14/04/2026	Ceris Fussell	Updates to as built
V4	06/08/2026	Ceris Fussell	Updates to air permeability

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SBEM & EPC Specification Document

Guiding you through Part L Compliance

Build Energy Ltd is committed to guiding our clients through compliance to Part L of the Building Regulations. This document has been designed to provide you with a single point of reference and transparent communication of the development's constructive and HVAC specification for both design and completion stage SBEM calculations and documentary evidence requirements, Building Regulations compliance and EPC lodgement.

Compliance to Part L of the Building Regulations is dependent upon the data provided within this document. **Any deviation from this specification will inevitably result in changes to the results, EPC rating and overall compliance.**

Please take a moment to read the below information which outlines details provided within this document.

SBEM Calculation Process Overview

All new-build developments are required to submit two sets of SBEM calculations – one at design stage ("As Designed"), before building work commences on site, and one at build completion ("As Built"), prior to Building Control sign-off. The second calculation is used to produce an Energy Performance Certificate (EPC) – a legal document required before occupancy.

As Designed & BRUKL Compliance

Upon completion of the design stage SBEM calculations, we will supply you with the compliant BRUKL & Specification Document and request confirmation from you that the proposed specification, as outlined in this document, will be built/installed on site.

As Built, BRUKL Compliance & EPC Lodgement

Upon completion of the build, you must request your "As Built" BRUKL report and EPC from us. Both sets of documents are required for Building Control sign-off. At this stage, we will request that all information outlined in the BRUKL & EPC Specification Document is confirmed and the required evidence is submitted. We will review the evidence and "As Built" BRUKL and confirm compliance to Part L. The SBEM assessor will issue the BRUKL and lodge the EPC.

About this document

Assumptions & Recommendations

Where we have been required to assume or recommend an item, this will be highlighted in yellow. Your SBEM assessor will outline why this assumption or recommendation has been made in separate communication.

You must confirm or request an amendment to these items at the earliest opportunity – required BRUKL and SBEM calculation reporting will not be supplied until all items are confirmed.

Changes to the Specification

We understand that changes happen throughout the build. We strongly recommend that all amendments that occur are communicated to us at the earliest opportunity and, ideally, before procurement and installation on-site. Your SBEM assessor will be required to re-calculate the SBEM to confirm compliance to Part L and re-issue the BRUKL & EPC Specification Document when changes to the specification occur.

Failure to advise us of these amendments may result in the calculations not complying to Building Regulations, affect the EPC rating or change the overall results. Build Energy Ltd will not be held responsible for issues in compliance or changes to EPC ratings if we have not been advised of amendments.

We will request the confirmation process outlined in "As Designed & BRUKL Compliance" section is repeated whenever an amendment is requested.

Evidence Requirements

All required evidence is outlined within this document. Evidence will be listed clearly in a separate column, next to the relevant element, titled "Evidence Required".

We cannot produce a BRUKLs or EPCs until all required evidence, in the format and quality required, is received in full. Build Energy Ltd will not be held responsible for any issues that arise should you not be able to supply the evidence required.

As Built Confirmation

Upon completion of the development, you will be required to supply final As Built architectural drawings and specification documents, as built on site. These documents must accurately reflect the specification we have developed with you.

We will review all documentation, amend calculations where necessary, and make ready the SBEM Calculations for EPC lodgement and completion, pending any required evidence. If issues arise with results, EPC ratings or overall compliance, your SBEM assessor will discuss this, and any possible solutions, with you.

The BRUKL & EPC Specification Document will be amended where necessary and re-issued to you for As Built confirmation. You will be required to confirm all elements of the specification within the "As Built Check" column. Finally, you will be required to provide signatory declaration that the specification is accurate to that built on site and return this document to us as confirmation. We will then be able to move forward with producing the BRUKL report and EPC lodgement.

All results and strategies are directly affected by the inputs listed in this document; any deviation from these is certain to output different results. Enforcement bodies must ensure that they are satisfied that the below inputs are an accurate reflection of the final building before using this reporting to demonstrate compliance.

We feel it is our duty to provide clear communication to our clients regarding successful compliance to Part L of the Building Regulations 2021. We recommend that you contact us as soon as possible to discuss any concerns so that we can review and advise solutions at the earliest opportunity. Our aim is to mitigate any potential issues that could arise at completion stage when it is generally too late in the process to make amendments.

SBEM & EPC Specification

Project Details					
Project Address	Unit 4, Ambrose House, Ambrose Street, Manchester, M12 5DD				
Client	GK Construction & project Management				
BE Reference	18953	**Issue Date**	06/08/2026	**Version Number**	V4
Stage	As Built		**Assessor Name**	Ceris Fussell	

Building Regulations Part L Compliance Overview					
Planning Conditions	10% reduction on Part L			**Part L Compliance**	**PASS**
Building regulations date	England Building Regulations Part L 2021			**Assessment type**	**Fit out**
Predicted EPC	A (23)	**TPER/BPER** *kWh/m²/year*	28.73/**28.31**	**TER/BER** *KgCO₂/m²/year*	2.66/**2.63**

Constructions

External Elements

Element	U-value *W/m²K*	Kappa value *kJ/m²K*	Construction	As Built Check
Ground floor	0.15	117	Screed, 150mm Concrete Dense, 225mm Kingspan Greenguard GG300 (0.033 W/mK) Membrane	*Tick to confirm*
External wall	0.18	25.3	100mm Kingspan QuadCore Wall Panel (0.018 W/mK)	✓
Roof	0.18	22.2	100mm Kingspan QuadCore KS1000 Roof Panel (0.018 W/mK)	✓

Openings

Type	U-value *W/m²K*	G-value	Frame Factor	Frame and Glazing Details	Evidence Required	As Built Check
Solid Personnel Doors	1.50	0.00	0.8	Aluminium, insulated door	Manufacturer U-value calculations / data sheets showing "Uw" whole frame U-values. Window and doorset positioning photos.	*Tick to confirm*
Glazing Type GL-A	1.00	0.41	0.80	Aluminium frame, double glazed, low-e, >16mm gap, argon filled		✓
Glazing Type GL-B	1.10	0.41	0.80	Aluminium frame, double glazed, low-e, >16mm gap, argon filled		✓

Air Permeability

		Evidence Required	As Built Check
Design Target	5.00 m^3/hm^2 @ 50 pascals Achieved score**: 5.27m^3/hm^2 @ 50 pascals**	Air Test Certificates and photograph	*Tick to confirm* ✓

HVAC Specification

Ventilation		
System details		
System type	MVHR	*Tick to confirm* ✓
Zone(s) served	Reception IT Room Staff Room	
Air Handling Unit (AHU)		
Make and model	Daikin VAM-FC9/J8	✓
SFP	0.59	
Heat recovery	0.89	
Ductwork leakage tested	-	
Ductwork leakage class	-	
AHU leakage tested	-	
AHU leakage class	-	

Exhaust					
Extract fans	**Make / Model**	**SFP (w/l/s)**	**Flow rate (l/s)**	**Zones**	**As Built Check**
Extract fans	Prio Silent XP 160EC	0.39	218.90	WC Showers	*Tick to confirm* ✓
Mechanical supply and extract	Prio Silent XP 160EC	1.2	83.30	Storage Areas all floors	

Lighting					
Lighting type	**Efficacy (lm/cW)**	**LOR**	**Lux levels**	**Zones**	**As Built Check**
Skytile base 600x600	98	1.00	100 300 300	Reception IT Room Staff Room	*Tick to confirm*
Rakula Downlight	121	1.00	200 100	WC Shower	✓
Radia LED Rapid Pro	124	1.00	100	Cupboard	✓
RadiaLED Pro 5ft	157	1.00	100	Storage Areas Stairwell	✓

Lighting controls			
Lighting control type	**Parasitic Power (W/m²)**	**Zones**	**As Built Check**
Auto-On-Off	0.10	Storage Areas WC	*Tick to confirm* ✓
Man-on-Auto-Off	0.10	Staff Room IT Room	✓
Manual on-off	-	Reception Stairwell	✓

Space Heating

Main Heating System

System type	System Manufacturer & Model Details	Heating Efficiency / SCOP	Cooling Efficiency		As Built Check
			SEER	EER	
ASHP	Daikin FTXM20A	5.10	8.65	4.57	*Tick to confirm* ✓
ASHP	Daikin FTXM50A	4.71	7.41	3.68	✓

Main Heating System Controls and Features

Heat Emitter(s)	Heating Controls	Additional Features	Monitoring / Targeting	As Built Check
Mounted wall units	Central time control	Yes		*Tick to confirm*
	Optimum start/stop control	No		
	Local time control (room by room)	Yes		
	Local temperature control (room by room)	Yes		
	Weather compensation control	No		

Bivalent	No	**Zone(s) served**	**As Built Check**
Destratification Fans	-		*Tick to confirm*
Variable speed pumps	Not applicable		*Tick to confirm*

Water Heating						
Type	**Make and model**	**Efficiency**	**Capacity (cylinder)**	**Standing Loss** *kWh/24 hours*	**Insulation present**	**As Built Check**
Instantaneous Hot Water	Ariston Andris Lux	100% (1.00)	None	-	-	*Tick to confirm* ✓
Zone(s) served	All Zones					

Power factor		
		As Built Check
Electrical power factor	<0.9	*Tick to confirm*

Renewable Technology								
Type	**Installed Peak Power** *kWp*	**Tilt** *Degrees*	**Orientation**	**Overshading**	**Export Capable Meter?**	**Connection Type**	**Evidence Required**	**As Built Check**
Solar Photovoltaic (PV)	9.32	30	South	None	YES	Direct	MCS Installation Certificate	*Tick to confirm* ✓

As Built Stage Confirmation

BE Reference	18953	Date	06/08/2026	Version	As built

I confirm that the drawings issued to you accurately reflect the as-built construction, that the above information accurately reflects the as-built specification and that all building services have been commissioned.

Printed Name	Organisation Name	Job Role
Signature		Date