



ENERGYREPORT

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Part L As built SAP Calculation Report

71a High Street, Botley, Southampton, SO30 2ES

B&B Homes Southern Ltd

J03239

28th April 2025

Issue:1

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Mon 28 Apr 2025 12:51:31

Project Information			
Assessed By	Stephen Harrison	Building Type	House, Detached
OCDEA Registration	EES/023532	Assessment Date	2025-04-28

Dwelling Details			
Assessment Type	As built	Total Floor Area	130 m ²
Site Reference	J03239 71a High Street	Plot Reference	E/B PV+ Div Floor
Address	71a, High Street, Southampton, SO30 2ES		

Client Details	
Name	Rob Bailey
Company	Array
Address	

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	9.93 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	4.7 kgCO ₂ /m ²		OK

1b Target primary energy rate and dwelling primary energy			
Target primary energy	51.86 kWh _{PE} /m ²		
Dwelling primary energy	49.89 kWh _{PE} /m ²		OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	39.9 kWh/m ²		
Dwelling fabric energy efficiency	36.4 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.18	Walls (1) (0.18)	OK
Party walls	0.2	N/A	N/A	N/A
Curtain walls	1.6	N/A	N/A	N/A
Floors	0.18	0.12	Heatloss Floor 1 (0.12)	OK
Roofs	0.16	0.11	Roof (1) (0.11)	OK
Windows, doors, and roof windows	1.6	1.38	Opening (1.5)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	151.14	0.18
Ground floor: Heatloss Floor 1, Heatloss Floor 1	64.8	0.12
Exposed roof: Roof (1)	64.8	0.11

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
Opening, Opening Type Door	2.1	North East	N/A	1.1 (!)
Opening, Opening Type windows	1.44	North East	0.7	1.32
Opening, Opening Type windows	1.44	North East	0.7	1.32
Opening, Opening Type windows	1.44	North East	0.7	1.32
Opening, Opening Type windows	1.26	North East	0.7	1.32
Opening, Opening Type windows	0.63	North East	0.7	1.32
Opening, Opening Type windows	1.89	North West	0.7	1.32
Opening, Opening Type Bifold	5.145	South East	0.7	1.5
Opening, Opening Type windows	0.63	South West	0.7	1.32
Opening, Opening Type windows	1.26	South West	0.7	1.32
Opening, Opening Type windows	1.44	South West	0.7	1.32
Opening, Opening Type windows	0.72	South West	0.7	1.32
Opening, Opening Type Bifold	5.145	South West	0.7	1.5

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E2: Other lintels (including other steel lintels)	Not government-approved scheme	0.026 (!)	RCD
External wall	E3: Sill	Not government-approved scheme	0.021 (!)	RCD
External wall	E4: Jamb	Not government-approved scheme	0.016 (!)	RCD
External wall	E5: Ground floor (normal)	Not government-approved scheme	0.052	RCD
External wall	E6: Intermediate floor within a dwelling	Not government-approved scheme	0.001 (!)	RCD
External wall	E16: Corner (normal)	Not government-approved scheme	0.035 (!)	RCD
External wall	E10: Eaves (insulation at ceiling level)	Not government-approved scheme	0.06	RCD
External wall	E12: Gable (insulation at ceiling level)	Not government-approved scheme	0.035 (!)	RCD
External wall	E17: Corner (inverted - internal area greater than external area)	Not government-approved scheme	-0.066	RCD

3 Air permeability (better than typically expected values are flagged with a subsequent (!))		
Maximum permitted air permeability at 50Pa	8 m ³ /hm ²	
Dwelling air permeability at 50Pa	3.78 m ³ /hm ² , Measured value (!)	OK
Air permeability test certificate reference	10412675	

4 Space heating	
Main heating system 1: Boiler with radiators or underfloor heating - Electricity	
Efficiency	100.0%
Emitter type	Radiators
Flow temperature	
System type	Direct acting electric boiler
Manufacturer	
Model	
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: Cylinder	
Capacity	215 litres
Declared heat loss	1.39 kWh/day
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Programmer, room thermostat, and TRVs	
Function	
Ecodesign class	
Manufacturer	
Model	
Water heating - type: Cylinder thermostat	
Manufacturer	
Model	

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	100 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: N/A		
Maximum permitted specific fan power	N/A	
Specific fan power	N/A	N/A
Minimum permitted heat recovery efficiency	N/A	
Heat recovery efficiency	N/A	N/A
Manufacturer/Model		
Commissioning		
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	5.28 kWp	
Orientation	South West	
Pitch	30°	
Overshading	None or very little	
Manufacturer		
MCS certificate		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct. 11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required. 11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.		Yes
12 Declarations		
a. Assessor Declaration		
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.		Yes
Sign:  Name: S Harrison	Assessor ID: W557-0001 Date: 28 Apr 2025	
b. Client Declaration		
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.		
Signed:  Name: 	Organisation:  Date: 	