Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed using Kaizen SAP 10.2 SAP 10 program, 1.0.1

Date: Wed 05 Mar 2025 13:39:56

Project Information			
Assessed By	Joanna Povey	Building Type	House, Detached
OCDEA Registration	KAZN000004	Assessment Date	2025-03-05

Dwelling Details			
Assessment Type	As built	Total Floor Area	162 m^2
Site Reference	010 Walnut	Plot Reference	010 Walnut
Address	11 WESTBOURNE DRIVE , BURRIDGE , SOUTHAMPTON , HANTS , SO31 1FG		

Client Details	
Name	Cala Homes Southern
Company	Cala Homes Southern
Address	Not Provided, Not Provided, AL9 5HZ

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	*9.41 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	3.57 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*49.34 kWh_{PE}/m^2*	
Dwelling primary energy	37.28 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*42.59 kWh/m^2*	
Dwelling fabric energy efficiency	41.24 kWh/m^2	OK

2a Fabric U-values				
Element	***Maximum permitted average U-Value [W/m^2K]***	**Dwelling average U-Value [W/m^2K]**	**Element with highest individual U-Value**	
External walls	*0.26*	0.22	Wl - 1 (0.22)	OK
Party walls	*0.2*	N/A	N/A	**N/A**
Curtain walls	*1.6*	N/A	N/A	**N/A**
Floors	*0.18*	0.16	Flr - Ground (0.16)	OK
Roofs	*0.16*	0.09	Rf - Ins Joist 2 (0.25)	OK
Windows, doors, and roof windows	*1.6*	1.3	Rear (1.4)	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^2K]**
Exposed wall: Wl - Stud	0	0.21
Exposed wall: Wl - 2	11.128	0.21
Exposed wall: Wl - 1	188.067	0.22
Ground floor: Flr - Ground	81.843	0.16
Exposed roof: Rf - Ins Joist	79.928	0.09 **(!)**
Exposed roof: Rf - Ins Rafter	0.561	0.16
Exposed roof: Rf - Ins Joist 2	1.824	0.25

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	**Area [m^2]**	**Orientation**	**Frame factor**	**U-Value [W/m^2K]**
Front, Door (1)	1.995	West	0.7	1.2
Rear, Door (2)	2.146	East	0.7	1.2
Front, Windows (1)	12.155	West	1.0	1.3
L Side, Windows (2)	0.732	North	1.0	1.3
R Side, Windows (3)	1.488	South	1.0	1.3
Rear, Windows (4)	11.438	East	1.0	1.3
Front, Windows (5)	2.389	West	1.0	1.3
Rear, Windows (6)	5.398	East	1.0	1.4
Front, RoofLights (1)	0.439	West	0.7	1.4

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part **1 - Main Dwelling**: 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)	Calculated by person with suitable expertise	0.024 **(!)**	Not Provided
External wall	E4: Jamb	Calculated by person with suitable expertise	0.008 **(!)**	Not Provided
External wall	E3: Sill	Calculated by person with suitable expertise	0.029 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.062	Not Provided
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0 **(!)**	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.021 **(!)**	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.032 **(!)**	Not Provided
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.013 **(!)**	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.115	Not Provided
External wall	E24: Eaves (insulation at ceiling level - inverted)	Calculated by person with suitable expertise	0.087	Not Provided
Roof	R1: Head of roof window	Calculated by person with suitable expertise	0.058	Not Provided
Roof	R2: Sill of roof window	Calculated by person with suitable expertise	0.049	Not Provided
Roof	R3: Jamb of roof window	Calculated by person with suitable expertise	0.058	Not Provided
Roof	R7: Flat ceiling (inverted)	SAP table default	0.12	Not Provided

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	3.73 m^3/hm^2, Measured value **(!)**	OK
Air permeability test certificate reference		

4 Space heating	
Main heating system 1: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	304.68685002998751%
Emitter type	Radiators
Flow temperature	45°C
System type	HeatPumpsWet
Manufacturer	Daikin Altherma
Model	EDLA09DA3V3
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: Cylinder	
Capacity	250 litres
Declared heat loss	2.1 kWh/day
Primary pipework insulated	Yes
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls		
Main heating 1 - type: Time and temperature zone control by arrangement of plumbing and electrical services		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: Cylinder thermostat and HW separately timed		
Manufacturer		
Model		

7 Lighting		
Minimum permitted light source efficacy	*75 lm/W*	
Lowest light source efficacy	101.25 lm/W	OK
External lights control	N/A	

8 Mechanical ventilation		
System type: Decentralised mechanical extract		
Maximum permitted specific fan power	*0.7 W/(l/s)*	
Specific fan power	0.01 W/(l/s)	OK
Minimum permitted heat recovery efficiency	*N/A*	
Heat recovery efficiency	N/A	**N/A**
Manufacturer/Model	Zehnder Group UK Ltd Unity CV2.1	
Commissioning		

9 Local generation
N/A

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.	

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.	
Signed: Name: Joanna Povey	Assessor ID: KAZN000004 Date: 05 Mar 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: Cala Homes Southern	Organisation: Cala Homes Southern Date: