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: Tue 04 Feb 2025 16:49:13

Project Information			
Assessed By	Connor Campbell	Building Type	House, Semi-detached
OCDEA Registration	KAZN000009	Assessment Date	2025-02-04

Dwelling Details			
Assessment Type	As designed	Total Floor Area	108 m^2
Site Reference	109 - 316SM MCA SD CLA-ST 8.3	Plot Reference	109 - 316SM MCA SD CLA-ST 8.3
Address	109 - 316SM MCA SD CLA-ST 8.3, ..., XX1X 1XX		

Client Details	
Name	Not Given
Company	Not Given
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	*10.68 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	2.30 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*55.83 kWh_{PE}/m^2*	
Dwelling primary energy	25.00 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*35.89 kWh/m^2*	
Dwelling fabric energy efficiency	34.44 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*	0.24	Wl - Dormer (0.26)	OK
Party walls	*0.2*	0	Party Wall (0)	**N/A**
Curtain walls	*1.6*	0	N/A	**N/A**
Floors	*0.18*	0.12	Flr - Ground (0.12)	OK
Roofs	*0.16*	0.13	Rf - Ins Rafter (0.16)	OK
Windows, doors, and roof windows	*1.6*	1.29	Front (1.3)	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 - Stone	81.861	0.25
Exposed wall: Wl - Spandrel	14.29	0.25
Exposed wall: Wl - Dormer	2.599	0.26
Exposed wall: Wl - Stud Ashlar	9.059	0.1152 **(!)**
Party wall: Party Wall	64.439	0 **(!)**
Ground floor: Flr - Ground	41.796	0.12
Exposed roof: Rf - Ins Joist	9.946	0.09 **(!)**
Exposed roof: Rf - Ins Rafter	21.79	0.16
Exposed roof: Rf - Gf Joist	6.048	0.11
Exposed roof: Rf - Uninsulated	1.935	0.12
Exposed roof: Rf - Flat Dormer	2.009	0.16
Exposed roof: Rf - Ashlar behind Stud	5.166	0.1152

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)	2.148	North East	0.7	1.2
Front, Windows (1)	4.459	North East	1.0	1.3
L Side, Windows (2)	0.645	South East	1.0	1.3
Rear, Windows (3)	4.406	South West	1.0	1.3

Name	Area [m^2]	Orientation	Frame factor	U-Value [W/m^2K]
Front, Windows (4)	1.44	North East	1.0	1.3
Rear, Windows (5)	2.614	South West	1.0	1.3

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)	Government-approved scheme	0.044	Not Provided
External wall	E4: Jamb	Government-approved scheme	0.01 **(!)**	Not Provided
External wall	E3: Sill	Government-approved scheme	0.009 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Government-approved scheme	0.0546	Not Provided
External wall	E6: Intermediate floor within a dwelling	Government-approved scheme	0.003 **(!)**	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Government-approved scheme	0.04	Not Provided
External wall	E11: Eaves (insulation at rafter level)	SAP table default	-0.027 **(!)**	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Government-approved scheme	0.044	Not Provided
External wall	E13: Gable (insulation at rafter level)	Government-approved scheme	0.046	Not Provided
External wall	E16: Corner (normal)	Government-approved scheme	0.029 **(!)**	Not Provided
External wall	E18: Party wall between dwellings	Government-approved scheme	0.036 **(!)**	Not Provided
External wall	E24: Eaves (insulation at ceiling level - inverted)	Government-approved scheme	0.107	Not Provided
Party wall	P1: Ground floor	Government-approved scheme	0.031 **(!)**	Not Provided
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 **(!)**	Not Provided
Party wall	P4: Roof (insulation at ceiling level)	Government-approved scheme	0.035 **(!)**	Not Provided
Party wall	P5: Roof (insulation at rafter level)	Government-approved scheme	0.043	Not Provided
Roof	R2: Sill of roof window	Government-approved scheme	0.049	Not Provided
Roof	R3: Jamb of roof window	Government-approved scheme	0.052	Not Provided
Roof	R6: Flat ceiling	SAP table default	-0.001 **(!)**	Not Provided
Roof	R7: Flat ceiling (inverted)	Government-approved scheme	0.021 **(!)**	Not Provided
Roof	R10: All other roof or room-in-roof junctions	Government-approved scheme	0.029 **(!)**	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	4 m^3/hm^2, Design value	**OK**
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Boiler with radiators or underfloor heating - Electricity

Efficiency	598.78736585486581%
Emitter type	Radiators
Flow temperature	45°C
System type	HeatPumpsWet
Manufacturer	
Model	
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water		
Cylinder/store - type: Cylinder		
Capacity	210 litres	
Declared heat loss	1.32 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	1%	**N/A**
Manufacturer/Model	0	
Commissioning		

9 Local generation	
Technology type: **Photovoltaic system (1)**	
Peak power	0.67 kWp
Orientation	South West
Pitch	45°
Overshading	None or very little
Manufacturer	Not Provided
MCS certificate	

10 Heat networks
N/A

11 Supporting documentary evidence
N/A

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 information submitted for this dwelling for the purpose of carrying out the "As designed" assessment, and that the supporting documentary evidence (SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required) has been reviewed in the course of preparing this BREL Compliance Report.	

Signed:	Assessor ID: KAZN000009
Name: Connor Campbell	Date: 04 Feb 2025

b. Client Declaration
N/A