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: Fri 07 Mar 2025 17:22:05

Project Information			
Assessed By	Test Test	Building Type	House, Detached
OCDEA Registration	KAZN000000	Assessment Date	2025-03-07

Dwelling Details			
Assessment Type	As designed	Total Floor Area	579 m^2
Site Reference	001 1	Plot Reference	001 1
Address	Address Line 1, ..., CV37 7RE		

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	*9.91 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	3.79 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*53.83 kWh_{PE}/m^2*	
Dwelling primary energy	41.69 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*54.11 kWh/m^2*	
Dwelling fabric energy efficiency	51.67 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*	0.16	Brick (0.19)	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	Exposed over garage (0.23)	OK
Roofs	*0.16*	0.12	Flat over dormer (0.16)	OK
Windows, doors, and roof windows	*1.6*	1.14	Front (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: Brick	240.834	0.19
Exposed wall: Mansard roof	132.526	0.14 **(!)**
Exposed wall: Garden Store	26.942	0.18
Exposed wall: Garage	16.913	0.18
Exposed wall: Wl - Dormer	2.816	0.19
Exposed wall: Wl - Stud Ashlar	96.455	0.1 **(!)**
Ground floor: Flr - Ground	253.661	0.1 **(!)**
Ground floor: Exposed over garage	30.261	0.23
Ground floor: Exposed over Garden store	11.69	0.23
Exposed roof: Flat roof parapet	46.693	0.11
Exposed roof: Terrace	72.731	0.11
Exposed roof: Flat over dormer	5.271	0.16
Exposed roof: Rf - Flat Roof	128.269	0.12
Exposed roof: Rf - Ashlar behind Stud	16.599	0.1 **(!)**

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)	5.152	South East	0.7	1.4
R Side, Door (2)	4.269	North East	0.7	1.4
Rear, Door (3)	1.911	North West	0.7	1.4

Name	Area [m^2]	Orientation	Frame factor	U-Value [W/m^2K]
Front, Door (4)	1.911	South East		0 **(!)**
Front, Windows (1)	23.924	South East	0.7	1.1 **(!)**
L Side, Windows (2)	6.133	South West	0.7	1.1 **(!)**
R Side, Windows (3)	5.932	North East	0.7	1.1 **(!)**
Rear, Windows (4)	9.4	North West	0.7	1.1 **(!)**
Rear, Windows (5)	10.233	North West	0.7	1.1 **(!)**
L Side, Windows (6)	4.725	South West	0.7	1.2
Rear, Windows (7)	14.05	North West	0.7	1.2
Rear, Windows (8)	8.085	North West	0.7	1.2
Rear, RoofLights (1)	0.96	Horizontal	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	0.312	Not Provided
External wall	E4: Jamb	Calculated by person with suitable expertise	0.021 **(!)**	Not Provided
External wall	E3: Sill	Calculated by person with suitable expertise	0.016 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.096	Not Provided
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.002 **(!)**	Not Provided
External wall	E11: Eaves (insulation at rafter level)	SAP table default	0.15	Not Provided
External wall	E13: Gable (insulation at rafter level)	SAP table default	0.25	Not Provided
External wall	E14: Flat roof	SAP table default	0.16	Not Provided
External wall	E15: Flat roof with parapet	SAP table default	0.3	Not Provided
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.051	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.091	Not Provided
External wall	E21: Exposed floor (inverted)	SAP table default	0.32	Not Provided
External wall	E24: Eaves (insulation at ceiling level - inverted)	SAP table default	0.15	Not Provided
Roof	R3: Jamb of roof window	SAP table default	0.24	Not Provided
Roof	R4: Ridge (vaulted ceiling)	SAP table default	0.12	Not Provided
Roof	R5: Ridge (inverted)	SAP table default	0.12	Not Provided
Roof	R6: Flat ceiling	SAP table default	0.12	Not Provided
Roof	R7: Flat ceiling (inverted)	SAP table default	0.12	Not Provided
Roof	R10: All other roof or room-in-roof junctions	SAP table default	0.32	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 m^3/hm^2, Design value **(!)**	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	219.3%
Emitter type	Underfloor
Flow temperature	
System type	HeatPumpsWet
Manufacturer	
Model	
Commissioning	
Secondary heating system: Open fire in grate	
Fuel	House coal
Efficiency	32.0%
Commissioning	

5 Hot water		
Cylinder/store - type: Cylinder		
Capacity	300 litres	
Declared heat loss	1.6 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: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	*1.5 W/(l/s)*	
Specific fan power	0.52 W/(l/s)	OK
Minimum permitted heat recovery efficiency	*73%*	
Heat recovery efficiency	88%	OK
Manufacturer/Model	Titon Hardware Ltd AXCO MVHR C170	
Commissioning		

9 Local generation	
Technology type: **Photovoltaic system (1)**	
Peak power	6.48 kWp
Orientation	Horizontal
Pitch	Horizontal
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: Name: Test Test	Assessor ID: KAZN000000 Date: 07 Mar 2025

b. Client Declaration
N/A