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: Thu 06 Mar 2025 11:42:31

Project Information			
Assessed By	Scott Binstead	Building Type	House, Detached
OCDEA Registration	KAZN000006	Assessment Date	2025-03-06

Dwelling Details			
Assessment Type	As designed	Total Floor Area	141 m^2
Site Reference	004	Plot Reference	Hartpury
Address	Address Line 1, ..., 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	*11.82 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	-0.27 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*62.26 kWh_{PE}/m^2*	
Dwelling primary energy	11.35 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*52.21 kWh/m^2*	
Dwelling fabric energy efficiency	50.97 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*	0.2	Brick (0.2)	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	Flr - Ground (0.12)	OK
Roofs	*0.16*	0.11	Flat Roof GF (0.14)	OK
Windows, doors, and roof windows	*1.6*	1.31	L Side (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	128.434	0.2
Exposed wall: Clad	15.942	0.2
Ground floor: Flr - Ground	77.947	0.12
Exposed roof: Rf - Ins Joist	62.961	0.1 **(!)**
Exposed roof: Flat Roof GF	14.986	0.14

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)	1.991	North West	0.7	1.1 **(!)**
L Side, Door (2)	1.869	North East	1.0	1.4
Front, Windows (1)	5.506	North West	1.0	1.3
R Side, Windows (2)	0.662	South West	1.0	1.3
Rear, Windows (3)	13.037	South East	1.0	1.3
Front, Windows (4)	8.395	North West	1.0	1.3
Rear, Windows (5)	3.915	South East	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	0.192	Not Provided
External wall	E4: Jamb	Calculated by person with suitable expertise	0.023 **(!)**	Not Provided
External wall	E3: Sill	Calculated by person with suitable expertise	0.017 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.019 **(!)**	Not Provided
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.002 **(!)**	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.068	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.042	Not Provided
External wall	E14: Flat roof	Calculated by person with suitable expertise	0.04	Not Provided
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.037 **(!)**	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.086	Not Provided
External wall	E24: Eaves (insulation at ceiling level - inverted)	SAP table default	0.15	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	5 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	307.276783048485%
Emitter type	Underfloor
Flow temperature	45°C
System type	HeatPumpsWet
Manufacturer	Mitsubishi Electric
Model	Ecodan 6.0 kW
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	1.8 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	0	
Commissioning		

9 Local generation	
Technology type: **Photovoltaic system (1)**	
Peak power	5.265 kWp
Orientation	South East
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: Name: Scott Binstead	Assessor ID: KAZN000006 Date: 06 Mar 2025
b. Client Declaration	
N/A	