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 14 Feb 2025 09:21:45

Project Information			
Assessed By	Scott Binstead	Building Type	House, Detached
OCDEA Registration	KAZN000006	Assessment Date	2025-02-14

Dwelling Details			
Assessment Type	As designed	Total Floor Area	153 m^2
Site Reference	002 - POPLAR	Plot Reference	002 - POPLAR
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	*9.83 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	4.21 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*51.61 kWh_{PE}/m^2*	
Dwelling primary energy	43.78 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*44.18 kWh/m^2*	
Dwelling fabric energy efficiency	43.70 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*	0.25	BRICK (0.25)	OK
Party walls	*0.2*	N/A	N/A	**N/A**
Curtain walls	*1.6*	N/A	N/A	**N/A**
Floors	*0.18*	0.11	Flr - Ground (0.11)	OK
Roofs	*0.16*	0.1	BAY WINDOW ROOF (0.22)	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: BRICK	164.776	0.25
Ground floor: Flr - Ground	81.776	0.11
Exposed roof: Rf - Ins Joist	71.353	0.09 **(!)**
Exposed roof: Rf - Ins Rafter	7.142	0.16
Exposed roof: BAY WINDOW ROOF	2.034	0.22
Exposed roof: Rf - Ins Joist Ashlar	1.189	0.179447556474829

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)	1.973	South West	0.7	1.2
R Side, Door (2)	1.974	South East	0.7	1.2
Front, Windows (1)	12.763	South West	1.0	1.3
L Side, Windows (2)	2.775	North West	1.0	1.3
R Side, Windows (3)	1.731	South East	1.0	1.3
Rear, Windows (4)	10.85	North East	1.0	1.3
Rear, Windows (5)	2.52	North East	1.0	1.4
L Side, RoofLights (1)	1.313	North 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)	Government-approved scheme	0.029 **(!)**	Not Provided
External wall	E4: Jamb	Government-approved scheme	0.02 **(!)**	Not Provided
External wall	E3: Sill	Government-approved scheme	0.015 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Government-approved scheme	0.059	Not Provided
External wall	E6: Intermediate floor within a dwelling	Government-approved scheme	0.004 **(!)**	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Government-approved scheme	0.074	Not Provided
External wall	E11: Eaves (insulation at rafter level)	Government-approved scheme	0.015 **(!)**	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Government-approved scheme	0.05	Not Provided
External wall	E13: Gable (insulation at rafter level)	Government-approved scheme	0.053	Not Provided
External wall	E14: Flat roof	Government-approved scheme	0.04	Not Provided
External wall	E16: Corner (normal)	Government-approved scheme	0.045	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	SAP table default	-0.098	Not Provided
External wall	E24: Eaves (insulation at ceiling level - inverted)	Government-approved scheme	0.15	Not Provided
Roof	R1: Head of roof window	Government-approved scheme	0.24	Not Provided
Roof	R2: Sill of roof window	Government-approved scheme	0.24	Not Provided
Roof	R3: Jamb of roof window	Government-approved scheme	0.24	Not Provided
Roof	R4: Ridge (vaulted ceiling)	Government-approved scheme	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	4 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	170%
Emitter type	Radiators
Flow temperature	
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	180 litres
Declared heat loss	1.4 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
N/A

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: 14 Feb 2025
b. Client Declaration	
N/A	