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 Mar 2025 15:58:18

Project Information			
Assessed By	Joanna Povey	Building Type	House, Detached
OCDEA Registration	KAZN000004	Assessment Date	2025-03-04

Dwelling Details			
Assessment Type	As built	Total Floor Area	102 m^2
Site Reference	025 - Fir - D	Plot Reference	025 - Fir - D
Address	8 Woodhouse Way, Warlingham, CR6 9FN		

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	*11.04 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	3.72 $kgCO_2/m^2$	**OK**
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*57.67 kWh_{PE}/m^2*	
Dwelling primary energy	38.87 kWh_{PE}/m^2	**OK**
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*41.82 kWh/m^2*	
Dwelling fabric energy efficiency	39.93 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	Brick (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*	0.17	Flr - Ground (0.17)	**OK**
Roofs	*0.16*	0.1	Rf - Ins Rafter (0.16)	**OK**
Windows, doors, and roof windows	*1.6*	1.3	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	140.248	0.22
Ground floor: Flr - Ground	54.955	0.17
Exposed roof: Rf - Ins Joist	47.012	0.09 **(!)**
Exposed roof: Rf - Ins Rafter	7.652	0.16

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)	1.984	South East	0.7	1.2
Front, Windows (1)	6.091	South East	1.0	1.3
L Side, Windows (2)	2.251	South West	1.0	1.3
R Side, Windows (3)	0.76	North East	1.0	1.3
Rear, Windows (4)	7.932	North West	1.0	1.3
L Side, RoofLights (1)	1.112	South 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

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
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	-0.042	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.021 **(!)**	Not Provided
External wall	E11: Eaves (insulation at rafter level)	Calculated by person with suitable expertise	0.004 **(!)**	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.032 **(!)**	Not Provided
External wall	E13: Gable (insulation at rafter level)	Calculated by person with suitable expertise	0.053	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
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	0.058	Not Provided
Roof	R3: Jamb of roof window	Calculated by person with suitable expertise	0.049	Not Provided
Roof	R4: Ridge (vaulted ceiling)	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	3.68 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	261.67697140829176%
Emitter type	Radiators
Flow temperature	45°C
System type	HeatPumpsWet
Manufacturer	Daikin Altherma
Model	EDLA04EV3
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	1.5 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: 04 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: Not Given	Organisation: Not Given Date: