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: Wed 05 Mar 2025 09:56:20

Project Information			
Assessed By	Connor Campbell	Building Type	House, Detached
OCDEA Registration	KAZN000009	Assessment Date	2025-02-28

Dwelling Details			
Assessment Type	As designed	Total Floor Area	137 m^2
Site Reference	246	Plot Reference	301 LAW DET RE 6.0
Address	246 - 301 LAW DET RE 6.0, ..., XX1X 1XX		

Client Details	
Name	Bloor Homes North West
Company	Bloor Homes North West
Address	1 Campion Park, London Road, Holmes Chapel, CHESHIRE, CW4 8AX

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	Mains gas	
Target carbon dioxide emission rate	*10.70 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	9.81 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*56.02 kWh_{PE}/m^2*	
Dwelling primary energy	53.14 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*40.19 kWh/m^2*	
Dwelling fabric energy efficiency	39.42 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 7N (0.26)	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*	0.14	Rf - Ins Rafter (0.16)	OK
Windows, doors, and roof windows	*1.6*	1.27	Rear (1.6)	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	125.856	0.24
Exposed wall: Brick 7N	4.97	0.26
Exposed wall: Spandrel	27.373	0.18
Exposed wall: Wl - Dormer	2.598	0.25
Exposed wall: Wl - Stud Ashlar	13.846	0.1152 **(!)**
Ground floor: Flr - Ground	48.832	0.12
Exposed roof: Rf - Ins Joist	10.622	0.11
Exposed roof: Rf - Ins Rafter	34.54	0.16
Exposed roof: Flat over Dormer	2.746	0.13
Exposed roof: Rf - Ashlar behind Stud	9.601	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	East	0.7	1.2
Front, Windows (1)	8.204	East	1.0	1.3
L Side, Windows (2)	0.688	North	1.0	1.3
R Side, Windows (3)	0.602	South	1.0	1.3
Rear, Windows (4)	7.554	West	1.0	1.3
R Side, Windows (5)	0.602	South		0 **(!)**
Front, Windows (6)	2.124	East	1.0	1.3

Name	Area [m^2]	Orientation	Frame factor	U-Value [W/m^2K]
Rear, Windows (7)	2.612	West	0.7	1.3
Rear, RoofLights (1)	0.539	West	0.7	1.6

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	0.044	Not Provided
External wall	E4: Jamb	Calculated by person with suitable expertise	0.01 **(!)**	Not Provided
External wall	E3: Sill	Calculated by person with suitable expertise	0.009 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.063	Not Provided
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.003 **(!)**	Not Provided
External wall	E11: Eaves (insulation at rafter level)	Calculated by person with suitable expertise	0.01 **(!)**	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.044	Not Provided
External wall	E13: Gable (insulation at rafter level)	Calculated by person with suitable expertise	0.046	Not Provided
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.029 **(!)**	Not Provided
Roof	R1: Head of roof window	Calculated by person with suitable expertise	0.05	Not Provided
Roof	R2: Sill of roof window	Calculated by person with suitable expertise	0.049	Not Provided
Roof	R3: Jamb of roof window	Calculated by person with suitable expertise	0.052	Not Provided
Roof	R6: Flat ceiling	Calculated by person with suitable expertise	-0.001 **(!)**	Not Provided
Roof	R7: Flat ceiling (inverted)	Calculated by person with suitable expertise	0.021 **(!)**	Not Provided
Roof	R10: All other roof or room-in-roof junctions	Calculated by person with suitable expertise	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 - Mains gas

Efficiency	44.5%
Emitter type	Radiators
Flow temperature	55°C
System type	Gas1998OrLater
Manufacturer	Ideal
Model	LOGIC CODE COMBI ESP1
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: Cylinder

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: Instantaneous	
Efficiency	69.4%
Manufacturer	Q-Blue B.V.
Model	QB1-21

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	2.025 kWp
Orientation	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: Name: Connor Campbell	Assessor ID: KAZN000009 Date: 05 Mar 2025
b. Client Declaration	
N/A	