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 13 Nov 2024 08:45:57

Project Information			
Assessed By	Joanna Povey	Building Type	House, Detached
OCDEA Registration	KAZN000004	Assessment Date	2024-11-13

Dwelling Details			
Assessment Type	As designed	Total Floor Area	124 m^2
Site Reference	Bowyer-CB-As-DET	Plot Reference	Bowyer - CB - DET SALES
Address	Address Line 1, Country Brick, AL9 5HZ		

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	Mains gas	
Target carbon dioxide emission rate	*10.57 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	10.48 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*55.25 kWh_{PE}/m^2*	
Dwelling primary energy	55.19 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*41.83 kWh/m^2*	
Dwelling fabric energy efficiency	41.31 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*	0.24	EW Brick AAC011 (0.24)	OK
Party walls	*0.2*	0	E-WM-30 (0)	**N/A**
Curtain walls	*1.6*	0	N/A	**N/A**
Floors	*0.18*	0.1	GF B&B J150 P/A=0.50 (0.1)	OK
Roofs	*0.16*	0.09	PR 300mm MW044 (0.14)	OK
Windows, doors, and roof windows	*1.6*	1.31	Front Door (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: EW Brick AAC011	131.3914	0.24
Party wall: E-WM-30	49	0 **(!)**
Ground floor: GF B&B J150 P/A=0.50	63	0.1 **(!)**
Exposed roof: PR 500mm MW044	61.09	0.09 **(!)**
Exposed roof: PR 300mm MW044	1.91	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, Door (1)	2.0265	East	0.7	1.4
Rear HGD, Door (2)	2.0265	West	0.7	1.4
Front Window, Windows (1)	10.4508	East	0.7	1.3
Rear Window, Windows (2)	2.3859	West	0.7	1.3
LHS Window, Windows (3)	5.9904	South	0.7	1.3
RHS Window, Windows (4)	4.86	North	0.7	1.3
RHS French, Windows (5)	3.3285	North	0.7	1.3

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	0.037 **(!)**	E02-Catnic-TS90/100
External wall	E4: Jamb	Government-approved scheme	0.009 **(!)**	E03-Knauf-034
External wall	E3: Sill	Government-approved scheme	0.014 **(!)**	E04-Knauf-034
External wall	E3: Sill	Government-approved scheme	0.1	E04-Default
External wall	E5: Ground floor (normal)	Government-approved scheme	0.07	E05-Placeholder-Par
External wall	E5: Ground floor (normal)	Government-approved scheme	0.07	E05-Placeholder-Perp
External wall	E6: Intermediate floor within a dwelling	SAP table default	0 **(!)**	E06-CD0029
External wall	E10: Eaves (insulation at ceiling level)	Government-approved scheme	0.036 **(!)**	E10-Knauf
External wall	E24: Eaves (insulation at ceiling level - inverted)	Government-approved scheme	0.15	E24-Default
External wall	E12: Gable (insulation at ceiling level)	Government-approved scheme	0.054	E12-CD0031-054
External wall	E16: Corner (normal)	Government-approved scheme	0.048	E16-SIG-034
External wall	E17: Corner (inverted - internal area greater than external area)	SAP table default	-0.096	E17-SIG-034
External wall	E2: Other lintels (including other steel lintels)	Government-approved scheme	0.021 **(!)**	E02-NRG-Catnic TS90/100

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	4.5 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	182.6%
Emitter type	Radiators
Flow temperature	55°C
System type	Gas1998OrLater
Manufacturer	
Model	
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	1.4 kWh/day
Primary pipework insulated	N/A
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	90 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	Titon Hardware Ltd Ultimate dMEV	
Commissioning		

9 Local generation	
Technology type: **Photovoltaic system (1)**	
Peak power	3.35 kWp
Orientation	North 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:	Assessor ID: KAZN000004
Name: Joanna Povey	Date: 13 Nov 2024

b. Client Declaration

N/A