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 15 Nov 2024 10:31:22

Project Information			
Assessed By	Joanna Povey	Building Type	House, Semi-detached
OCDEA Registration	KAZN000004	Assessment Date	2024-10-09

Dwelling Details			
Assessment Type	As designed	Total Floor Area	103 m^2
Site Reference	Aldridge SD	Plot Reference	Aldridge SD
Address	Address Line 1, ..., 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	*11.35 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	10.41 $kgCO_2/m^2$	**OK**
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*59.52 kWh_{PE}/m^2*	
Dwelling primary energy	56.25 kWh_{PE}/m^2	**OK**
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*36.77 kWh/m^2*	
Dwelling fabric energy efficiency	35.26 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	Wl - Dormer (0.26)	**OK**
Party walls	*0.2*	0	Party Wall (0)	**N/A**
Curtain walls	*1.6*	0	Wl - Stud (0.13)	**OK**
Floors	*0.18*	0.11	Flr - Ground (0.11)	**OK**
Roofs	*0.16*	0.14	Rf - Ins Rafter (0.17)	**OK**
Windows, doors, and roof windows	*1.6*	1.26	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	87.263	0.24
Exposed wall: Wl - Dormer	4.181	0.26
Exposed wall: Wl - Stud	15.207	0.13 **(!)**
Party wall: Party Wall	51.032	0 **(!)**
Ground floor: Flr - Ground	40.091	0.11
Exposed roof: Rf - Ins Joist	8.669	0.15
Exposed roof: Rf - Ins Rafter	14.383	0.17
Exposed roof: Rf - Dormer Roof	2.603	0.11
Exposed roof: Rf - Behind Stud	17.389	0.12

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	**Area [m^2]**	**Orientation**	**Frame factor**	**U-Value [W/m^2K]**
Rear, Door (1)	3.093	West	1.0	1.2
Front, Door (2)	1.978	East	0.7	1.1 **(!)**
Front, Windows (1)	1.365	East	1.0	1.3
Rear, Windows (2)	3.575	West	1.0	1.3
Front, Windows (3)	4.344	East	1.0	1.3
Rear, RoofLights (1)	0.538	West	1.0	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)	Government-approved scheme	0.042	Catnic
External wall	E4: Jamb	Government-approved scheme	0.01 **(!)**	Not Provided
External wall	E3: Sill	Government-approved scheme	0.009 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Government-approved scheme	0.06	Not Provided
External wall	E6: Intermediate floor within a dwelling	Government-approved scheme	0.003 **(!)**	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Government-approved scheme	0.044	Not Provided
External wall	E13: Gable (insulation at rafter level)	Government-approved scheme	0.046	Not Provided
External wall	E16: Corner (normal)	Government-approved scheme	0.029 **(!)**	Not Provided
External wall	E18: Party wall between dwellings	Government-approved scheme	0.036 **(!)**	Not Provided
Party wall	P1: Ground floor	Government-approved scheme	0.031 **(!)**	Not Provided
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 **(!)**	Not Provided
Party wall	P4: Roof (insulation at ceiling level)	Government-approved scheme	0.035 **(!)**	Not Provided
Party wall	P5: Roof (insulation at rafter level)	Government-approved scheme	0.055	Not Provided
Roof	R1: Head of roof window	Government-approved scheme	0.058	Not Provided
Roof	R2: Sill of roof window	Government-approved scheme	0.058	Not Provided
Roof	R3: Jamb of roof window	Government-approved scheme	0.049	Not Provided
Roof	R6: Flat ceiling	SAP table default	-0.001 **(!)**	Not Provided
Roof	R7: Flat ceiling (inverted)	Government-approved scheme	0.021 **(!)**	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	SAP table default	-0.014 **(!)**	Not Provided
Roof	R8: Roof to wall (rafter)	Government-approved scheme	0.009 **(!)**	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Government-approved scheme	0.04	E10-13202
External wall	E16: Corner (normal)	Government-approved scheme	0.019 **(!)**	Not Provided
Roof	R10: All other roof or room-in-roof junctions	Government-approved scheme	0.029 **(!)**	Stormking
External wall	E6: Intermediate floor within a dwelling	SAP table default	-0.019 **(!)**	Not Provided
External wall	E18: Party wall between dwellings	Government-approved scheme	0.061	rir
External wall	E16: Corner (normal)	Government-approved scheme	0.019 **(!)**	gable
Roof	R2: Sill of roof window	Government-approved scheme	0.058	Dormer

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	181.5%
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: N/A		
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	1%	
Manufacturer	Q-Blue B.V.	
Model	QB1-21	

6 Controls		
Main heating 1 - type: Programmer, room thermostat, and TRVs		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: Cylinder thermostat		
Manufacturer		
Model		

7 Lighting		
Minimum permitted light source efficacy	*75 lm/W*	
Lowest light source efficacy	99 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	0.11 W/(l/s)	OK
Minimum permitted heat recovery efficiency	*N/A*	
Heat recovery efficiency	1%	**N/A**
Manufacturer/Model	0	
Commissioning		

9 Local generation	
Technology type: **Photovoltaic system (1)**	
Peak power	0.81 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: Name: Joanna Povey	Assessor ID: KAZN000004 Date: 15 Nov 2024

b. Client Declaration
N/A