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: Mon 04 Nov 2024 14:55:22

Project Information			
Assessed By	BRE Testing	Building Type	House, Detached
OCDEA Registration	KAZN000001	Assessment Date	2024-10-29

Dwelling Details			
Assessment Type	As built	Total Floor Area	137 m^2
Site Reference	005 - 477SM MOR DET BR 6.1	Plot Reference	005 - 477SM MOR DET BR 6.1
Address	302 Bridgewater Place, WARRINGTON, WA3 6XG		

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	*10.58 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	10.25 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*55.37 kWh_{PE}/m^2*	
Dwelling primary energy	54.67 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*39.29 kWh/m^2*	
Dwelling fabric energy efficiency	37.97 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	7N BlockWork (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*	0.1	Flr - Ground (0.1)	OK
Roofs	*0.16*	0.14	Rf - Ins Rafter (0.16)	OK
Windows, doors, and roof windows	*1.6*	1.26	Rear (1.5)	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	106.245	0.24
Exposed wall: Render	18.599	0.24
Exposed wall: 7N BlockWork	5.28	0.26
Exposed wall: Spandrell Wall, Roof	27.373	0.18
Exposed wall: Wl - Dormer	2.598	0.26
Exposed wall: Wl - Stud Ashlar	13.847	0.1152 **(!)**
Ground floor: Flr - Ground	48.846	0.1 **(!)**
Exposed roof: Rf - Ins Joist	10.623	0.09 **(!)**
Exposed roof: Rf - Ins Rafter	34.548	0.16
Exposed roof: Dormer	2.746	0.16
Exposed roof: Rf - Ashlar behind Stud	9.608	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	South	0.7	1.2
L Side, Windows (1)	0.688	East	1.0	1.3
R Side, Windows (2)	0.602	West	1.0	1.3
Rear, Windows (3)	7.554	North	1.0	1.3
Front, Windows (4)	8.204	South	1.0	1.3

Name	Area [m^2]	Orientation	Frame factor	U-Value [W/m^2K]
R Side, Windows (5)	0.602	West		0 **(!)**
Front, Windows (6)	2.124	South	1.0	1.3
Rear, Windows (7)	2.612	North	1.0	1.3
Rear, RoofLights (1)	0.539	North	1.0	1.5

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	0.044	Not Provided
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	E11: Eaves (insulation at rafter level)	SAP table default	-0.027 **(!)**	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
Roof	R1: Head of roof window	Government-approved scheme	0.05	Not Provided
Roof	R2: Sill of roof window	Government-approved scheme	0.049	Not Provided
Roof	R3: Jamb of roof window	Government-approved scheme	0.052	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
Roof	R10: All other roof or room-in-roof junctions	Government-approved scheme	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, Measured 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	1.4 kWh/day
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: 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	
Technology type: **Photovoltaic system (1)**	
Peak power	1.215 kWp
Orientation	South East
Pitch	30°
Overshading	None or very little
Manufacturer	Not Provided
MCS certificate	

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: BRE Testing	Assessor ID: KAZN000001 Date: 04 Nov 2024

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:	Organisation: Not Given
Name: Not Given	Date: