

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Stroma SAP 10.2 SAP 10 program, 10.2

Date: Wed 24 Aug 2022 14:30:57

Project Information			
Assessed By	Anthony Anosike	Building Type	House, Detached
OCDEA Registration	STRO007433	Assessment Date	2022-08-19

Dwelling Details			
Assessment Type	As designed	Total Floor Area	96 m ²
Site Reference	V3 Adj. 58 Prospect Street	Plot Reference	V3 Adj. 58 Prospect Street
Address	Adj. 58 Prospect Street, Caversham, READING, RG4 8JN		

Client Details	
Name	Client
Company	Adj. 58 Prospect Street
Address	Not Provided, CAVERSHAM, RG4 8JN

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	Heat network		
Target carbon dioxide emission rate	12.67 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	5.23 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	66.37 kWh _{PE} /m ²		
Dwelling primary energy	54.01 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	48.6 kWh/m ²		
Dwelling fabric energy efficiency	47.2 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.11	Sun Tunnel (0.12)	OK
Party walls	0.2	N/A	N/A	N/A
Curtain walls	1.6	N/A	N/A	N/A
Floors	0.18	0.11	Not Provided (0.13)	OK
Roofs	0.16	0.11	Roof (Sloping Ceiling) (0.11)	OK
Windows, doors, and roof windows	1.6	1.3	1 (1.3)	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 ² K]
Exposed wall: External Wall	145.8835	0.11 (!)
Exposed wall: Sun Tunnel	2.15	0.12 (!)
Ground floor: Not Provided	52.06	0.11
Upper floor: Not Provided	0.56	0.13
Exposed roof: Roof (Sloping Ceiling)	11.11512	0.11
Exposed roof: Roof (Flat Ceiling)	33.49	0.11
Exposed roof: Flat Roof	7.8876	0.11

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
1, Windows (1)	3.29	South	0.7	1.3
2, Windows (1)	1.86	South	0.7	1.3
3, Windows (1)	1.377	South	0.7	1.3
4, Windows (1)	1.3635	South	0.7	1.3
5, Windows (1)	1.3635	South	0.7	1.3
6, Windows (1)	3.255	North	0.7	1.3
7, Windows (1)	1.365	North	0.7	1.3
8, Windows (1)	1.365	North	0.7	1.3
9, Windows (1)	1.155	North	0.7	1.3
10, Windows (1)	1.155	North	0.7	1.3

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
11, Windows (1)	1.2285	North	0.7	1.3
12, Windows (1)	2.34	North	0.7	1.3
13, Windows (1)	1.365	East	0.7	1.3
14, Windows (1)	1.911	East	0.7	1.3
15, Windows (1)	1.5015	West	0.7	1.3
16, Windows (1)	1.5015	West	0.7	1.3
17, Windows (1)	0.81	West	0.7	1.3
18, Windows (1)	0.81	West	0.7	1.3
19, Roof windows (1)	0.76284	East	0.7	1.3
20, Roof windows (1)	0.76284	East	0.7	1.3
21, Roof windows (1)	1.1224	East	0.7	1.3
22, Roof windows (1)	0.1296	North	0.7	1.3
23, Roof windows (1)	0.1296	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	0.05	Not Provided
External wall	E3: Sill	Government-approved scheme	0.04	Not Provided
External wall	E4: Jamb	Government-approved scheme	0.05	Not Provided
External wall	E5: Ground floor (normal)	Government-approved scheme	0.16	Not Provided
External wall	E6: Intermediate floor within a dwelling	Government-approved scheme	0.07	Not Provided
External wall	E16: Corner (normal)	Government-approved scheme	0.09	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	Government-approved scheme	-0.09	Not Provided
External wall	E11: Eaves (insulation at rafter level)	Government-approved scheme	0.04	Not Provided
External wall	E13: Gable (insulation at rafter level)	Government-approved scheme	0.04	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Government-approved scheme	0.06	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Government-approved scheme	0.24	Not Provided
External wall	E14: Flat roof	Not government-approved scheme	0.08	Not Provided
Roof	R1: Head of roof window	Not government-approved scheme	0.08	Not Provided
Roof	R2: Sill of roof window	Not government-approved scheme	0.06	Not Provided
Roof	R3: Jamb of roof window	Not government-approved scheme	0.08	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	5 m ³ /hm ² , Design value	OK
Air permeability test certificate reference	Not Provided	

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Heat network	
Efficiency	331.3%
Emitter type	Both radiators and underfloor
Flow temperature	45°C
System type	Wet system, flow temperature 45°C
Manufacturer	Daikin Europe NV
Model	Daikin Altherma
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water		
Cylinder/store - type: Cylinder		
Capacity	150 litres	
Declared heat loss	2.5 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		
Manufacturer		
Model		
7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	100 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	1.13 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	89%	OK
Manufacturer/Model	Nuaire MRXBOX90L	
Commissioning	Not Provided / Not Provided	
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	3 kWp	
Orientation	South	
Pitch	30°	
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:	
Name:	Date:	

b. Client Declaration
N/A