

Building Regulations England Part L (BREL) Compliance Report

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

Date: Thu 21 Dec 2023 13:29:00

Project Information			
Assessed By	Graham Suttill	Building Type	House, Semi-detached
OCDEA Registration	EES/027435	Assessment Date	2023-12-21

Dwelling Details			
Assessment Type	As designed	Total Floor Area	169 m ²
Site Reference	Plot 2	Plot Reference	Plot 2 Be Green
Address	95 Plot 1 Avenue Road, London, NW8 6HY		

Client Details	
Name	Wendy Warren
Company	Carnell Warren Associates Ltd
Address	Duke House, Duke Street, Woking, GU21 5BA

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	Electricity		
Target carbon dioxide emission rate	12.08 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	10.33 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	64.07 kWh _{PE} /m ²		
Dwelling primary energy	106.67 kWh _{PE} /m ²		FAIL
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	56.6 kWh/m ²		
Dwelling fabric energy efficiency	97.0 kWh/m ²		FAIL

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	0.27	Walls (1) (0.3)	FAIL
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.25	Basement Floor 2 (0.25)	FAIL
Roofs	0.16	0.15	Roof (1) (0.15)	OK
Windows, doors, and roof windows	1.6	1.4	Entrance Door E (1.4)	OK
Rooflights	2.2	1.3	GF RL, West (1.3)	OK

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: Walls (1)	92.38	0.3	
Exposed wall: Walls (2)	57.94	0.3	
Exposed wall: Walls (3)	43.33	0.18	
Party wall: Party Wall (1)	52.99	0 (!)	
Basement floor: Basement Floor 2, Basement Floor 2	21.87	0.25	
Basement floor: Basement Floor, Basement Floor	77.27	0.25	
Exposed roof: Roof (1)	27.54	0.15	
Exposed roof: Roof (2)	62.49	0.15	

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]
Entrance Door E, Entrance Door	2.88	East	N/A	1.4
E Windows, Windows	17.39	East	0.7	1.4
N Windows, Windows	7.85	North	0.7	1.4
N Glazed Doors, Glazed Doors	6.02	North	0.7	1.4
N Glazed Walls, Glazed Wall	20.23	North	0.7	1.4
W Windows, Windows	3.34	West	0.7	1.4
W Glazed Wall, Glazed Wall	7.49	West	0.7	1.4
GF RL, Rooflights	2.95	West	0.7	1.3
1F RL, Rooflights	7.17	East	0.7	1.3

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1 - Main Dwelling : SAP default y-value (0.2 W/m ² K) used for thermal bridging				
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	6 m ³ /hm ² , Design value			OK
Air permeability test certificate reference				
4 Space heating				
Main heating system 1 : Heat pump with radiators or underfloor heating - Electricity				
Efficiency	170.0%			
Emitter type	Both radiators and underfloor			
Flow temperature				
System type	Air source heat pump			
Manufacturer				
Model				
Commissioning				
Secondary heating system : N/A				
Fuel	N/A			
Efficiency	N/A			
Commissioning				
5 Hot water				
Cylinder/store - type: N/A				
Capacity	300 litres			
Declared heat loss	1.8 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	75 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	0.84 W/(l/s)			OK
Minimum permitted heat recovery efficiency	73%			
Heat recovery efficiency	84%			OK
Manufacturer/Model	Sentinel Kinetic FH, 408167A			
Commissioning				
9 Local generation				
N/A				
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	