

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: Tue 16 Jul 2024 10:56:56

Project Information			
Assessed By	Sapdemo Maxfordham	Building Type	House, Detached
OCDEA Registration	STRO037698	Assessment Date	2023-08-24

Dwelling Details			
Assessment Type	As designed	Total Floor Area	459 m ²
Site Reference	House 1 (gf extension only)	Plot Reference	H1_2.2
Address	99 Frognal, LONDON, NW3 6XR		

Client Details	
Name	99 Frognal
Company	Not Provided
Address	Not Provided, Not Provided, WF10 5QU

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	15.25 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	3.93 kgCO ₂ /m ²	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	82.8 kWh _{PE} /m ²	
Dwelling primary energy	40.78 kWh _{PE} /m ²	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	78.3 kWh/m ²	
Dwelling fabric energy efficiency	107.5 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	0.15	EXT Extension Walls (0.15)	OK
Party walls	0.2	0	Extension/House 2 Party Wall (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.15	EXT Basement Floor (0.18)	OK
Roofs	0.16	0.13	EXT Basement Roof (0.16)	OK
Windows, doors, and roof windows	1.6	1.22	1 (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 ² K]
Exposed wall: EXT Extension Walls	132	0.15
Basement wall: EXT Basement Walls	520	0.15
Party wall: Extension/House 2 Party Wall	21.09	0 (!)
Party wall: Extension/Main House Party Wall	22.03	0 (!)
Ground floor: EXT Ground Floor	185	0.1 (!)
Basement floor: EXT Basement Floor	190	0.18
Basement floor: EXT Pool Floor	74	0.18
Exposed roof: EXT Extension Roof	254.06	0.12
Exposed roof: EXT Basement Roof	96	0.16

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, Doors	3.6	East	N/A	1.4
2, Windows (1)	6.6	North East	0.8	1.2
3, Windows (1)	11	East	0.8	1.2
4, Windows (1)	11.2	South East	0.8	1.2
5, Windows (1)	9.5	South	0.8	1.2
6, Windows (1)	6.4	South	0.8	1.2
7, Windows (1)	13.8	South	0.8	1.2

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
8, Windows (1)	6.9	South West	0.8	1.2
9, Windows (1)	6.9	West	0.8	1.2
10, Windows (1)	2	West	0.8	1.2
11, Windows (1)	24.2	South	0.8	1.2
12, Windows (1)	4.8	South	0.8	1.2
13, Windows (1)	10.6	West	0.8	1.2
14, Windows (1)	2.9	East	0.8	1.2
15, Windows (1)	18.1	South	0.8	1.2
16, Windows (1)	7.5	East	0.8	1.2
17, Windows (1)	9.2	North	0.8	1.2
18, Windows (1)	15.6	North	0.8	1.2
19, Windows (1)	6.6	North	0.8	1.2
20, Windows (1)	1.8	North	0.8	1.2
21, Roof windows (1)	17.94	North	1.0	1.4

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/m²K) 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	2 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 - Electricity

Efficiency	372.4%
Emitter type	Both radiators and underfloor
Flow temperature	45°C
System type	
Manufacturer	
Model	
Commissioning	

Main heating system 2: Heat pump with warm air distribution - Electricity

Efficiency	372.4%
Emitter type	Fan coil units
Flow temperature	58°C
System type	
Manufacturer	
Model	
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: Cylinder

Capacity	250 litres
Declared heat loss	2.5 kWh/day
Primary pipework insulated	No
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: N/A

Efficiency	
Manufacturer	
Model	

6 Controls

Main heating 1 - type: Programmer and at least two room thermostats

Function	
Ecodesign class	
Manufacturer	
Model	

Main heating 2 - type: Programmer and room thermostat		
Function		
Ecodesign class		
Manufacturer		
Model		
Water heating - type: N/A		
Manufacturer		
Model		
7 Lighting		
<i>Minimum permitted light source efficacy</i>	75 lm/W	
Lowest light source efficacy	80 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
<i>Maximum permitted specific fan power</i>	1.5 W/(l/s)	
Specific fan power	0.72 W/(l/s)	OK
<i>Minimum permitted heat recovery efficiency</i>	73%	
Heat recovery efficiency	88%	OK
Manufacturer/Model		
Commissioning	Not Provided / Not Provided	
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		