

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: Fri 23 Sep 2022 13:39:58

Project Information			
Assessed By	Owain Morgan	Building Type	House, Detached
OCDEA Registration	STRO029902	Assessment Date	2022-09-14

Dwelling Details			
Assessment Type	As designed	Total Floor Area	265 m ²
Site Reference	37A	Plot Reference	7305
Address	UB10 8AF		

Client Details			
Name	Not Provided		
Company	Not Provided		
Address	Not Provided, Not Provided		

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	9.41 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.16 kgCO ₂ /m ²	OK	
1b Target primary energy rate and dwelling primary energy			
Target primary energy	49.56 kWh _{PE} /m ²		
Dwelling primary energy	32.66 kWh _{PE} /m ²	OK	
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	44.9 kWh/m ²		
Dwelling fabric energy efficiency	44 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	0.18	External Walls (0.18)	OK
Party walls	0.2	N/A	N/A	N/A
Curtain walls	1.6	N/A	N/A	N/A
Floors	0.18	0.13	Not Provided (0.13)	OK
Roofs	0.16	0.11	Roof Room (0.11)	OK
Windows, doors, and roof windows	1.6	1.16	3 (1.2)	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 Walls	165.808525	0.18	
Exposed wall: Garage Walls	23.3	0.172	
Exposed wall: Roof Room Walls	52.8	0.165	
Ground floor: Not Provided	102.15	0.13	
Upper floor: Not Provided	21.9	0.13	
Exposed roof: Roof Room	59.26	0.11	
Exposed roof: Insulated Joists	51.77	0.11	
Exposed roof: Flat Roof	11.206475	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, Doors	1.9125	South East	0.7	1 (!)
2, Doors	1.6	South East	0.7	1 (!)
3, Windows (1)	1.009375	South East	0.7	1.2
4, Windows (1)	1.009375	South East	0.7	1.2
5, Windows (1)	8.5827	North West	0.7	1.2
6, Windows (1)	6.4904	North West	0.7	1.2
7, Windows (1)	6.81065	South West	0.7	1.2
8, Windows (1)	4.44175	South East	0.7	1.2
9, Windows (1)	1.2225	South West	0.7	1.2

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
10, Windows (1)	1.2225	North East	0.7	1.2
11, Windows (1)	1.1286	South West	0.7	1.2
12, Windows (1)	1.7466	North East	0.7	1.2
13, Windows (1)	0.65405	North East	0.7	1.2
14, Windows (1)	0.65405	North East	0.7	1.2
15, Windows (1)	0.65405	North East	0.7	1.2
16, Windows (1)	3.314025	South East	0.7	1.2
17, Windows (1)	3.314025	South East	0.7	1.2
18, Windows (1)	2.88915	South East	0.7	1.2
19, Windows (1)	1.0669	North East	0.7	1.2
20, Windows (1)	1.957875	North East	0.7	1.2
21, Windows (1)	2.896875	North West	0.7	1.2
22, Windows (1)	2.896875	North West	0.7	1.2
23, Windows (1)	2.76555	North West	0.7	1.2
24, Windows (1)	0.84105	South West	0.7	1.2
25, Windows (1)	0.84105	South West	0.7	1.2
26, Windows (1)	2.496	South West	0.7	1.2
27, Windows (1)	0.7965	South East	0.7	1.2
28, Windows (1)	0.7965	North West	0.7	1.2
23, Roof windows (0)	1.813525	North West		0 (!)

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
			(!)	

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	3 m ³ /hm ² , Design value (!)
Air permeability test certificate reference	Not Provided

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Electricity

Efficiency	322.6%
Emitter type	Radiators
Flow temperature	45°C
System type	
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: 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: N/A				
Manufacturer				
Model				
7 Lighting				
Minimum permitted light source efficacy	75 lm/W			
Lowest light source efficacy	95 lm/W	OK		
External lights control	N/A			
8 Mechanical ventilation				
System type: N/A				
Maximum permitted specific fan power	N/A			
Specific fan power	N/A	N/A		
Minimum permitted heat recovery efficiency	N/A			
Heat recovery efficiency	N/A	N/A		
Manufacturer/Model				
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				