Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Argyle Software ACE SAP 10 program, 10.2.2.0

Date: Wed 25 Oct 2023 13:12:45

Project Information			
Assessed By	mr r britton p	Building Type	House, Detached
OCDEA Registration	QUID207812	Assessment Date	2023-10-25

Dwelling Details			
Assessment Type	As designed	Total Floor Area	286 m^2
Site Reference	Not provided	Plot Reference	Not provided
Address	Little Tresevern, Tresevern, TR3 7AT		

Client Details	
Name	Total Design
Company	Total Design
Address	1 Court Lane, Newent, GL18 1AR

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	*6.83 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	-0.39 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*36.21 kWh_{PE}/m^2*	
Dwelling primary energy	7.19 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*37.5 kWh/m^2*	
Dwelling fabric energy efficiency	36.6 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*	0.18	Walls (3) (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*	0.1	Name 1 (0.1)	OK
Roofs	*0.16*	0.12	Roof (1) (0.15)	OK
Windows, doors, and roof windows	*1.6*	1	1 (1)	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: Walls (3)	192.04	0.18
Exposed wall: Walls (1), dormer	6.12	0.18
Exposed wall: Walls (2), garage wall	19	0.18
Ground floor: Name 1	140	0.1 **(!)**
Exposed roof: Roof (2)	105	0.1 **(!)**
Exposed roof: Roof (1)	77	0.15
Exposed roof: Roof (3)	5	0.1 **(!)**

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	**Area [m^2]**	**Orientation**	**Frame factor**	**U-Value [W/m^2K]**
1, Windows (1)	1.8585	South West	0.7	1 **(!)**
2, Windows (1)	0.5145	South West	0.7	1 **(!)**
3, Windows (1)	0.966	South West	0.7	1 **(!)**
4, Windows (1)	1.104	South West	0.7	1 **(!)**
5, Windows (1)	1.104	South West	0.7	1 **(!)**
6, Windows (1)	1.104	South West	0.7	1 **(!)**
7, Windows (1)	1.104	South West	0.7	1 **(!)**
8, Windows (1)	0.966	South West	0.7	1 **(!)**
9, Windows (1)	2.1	South West	0.7	1 **(!)**
10, Windows (1)	1.8585	South West	0.7	1 **(!)**

Name	Area [m^2]	Orientation	Frame factor	U-Value [W/m^2K]
11, Windows (1)	2.124	South West	0.7	1 **(!)**
12, Windows (1)	1.005	North East	0.7	1 **(!)**
13, Windows (1)	7.02	North East	0.7	1 **(!)**
14, Windows (1)	5.04	North East	0.7	1 **(!)**
15, Windows (1)	0.72	North East	0.7	1 **(!)**
16, Windows (1)	2.73	North East	0.7	1 **(!)**
17, Windows (1)	0.72	North East	0.7	1 **(!)**
18, Windows (1)	1.26	North East	0.7	1 **(!)**
19, Windows (1)	1.89	North East	0.7	1 **(!)**
20, Windows (1)	1.26	North East	0.7	1 **(!)**
21, Windows (1)	1.26	North East	0.7	1 **(!)**
22, Windows (1)	0.588	South East	0.7	1 **(!)**
23, Windows (1)	0.3	North East	0.7	1 **(!)**
24, Windows (1)	2.3895	North West	0.7	1 **(!)**
25, Windows (1)	0.828	South East	0.7	1 **(!)**
26, Windows (1)	0.828	South East	0.7	1 **(!)**
27, Windows (1)	0.966	North West	0.7	1 **(!)**
28, Windows (1)	0.828	North West	0.7	1 **(!)**
29, Windows (1)	5.04	North West	0.7	1 **(!)**
30, Windows (1)	0.828	North West	0.7	1 **(!)**
31, Windows (1)	0.828	North West	0.7	1 **(!)**
32, Windows (1)	0.828	North West	0.7	1 **(!)**
33, Windows (1)	1.44	North East	0.7	1 **(!)**
34, Windows (1)	1.44	North East	0.7	1 **(!)**

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	E3: Sill	Government-approved scheme	0.04	
External wall	E2: Other lintels (including other steel lintels)	Government-approved scheme	0.3	
External wall	E4: Jamb	Government-approved scheme	0.05	

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 **(!)**	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Boiler with radiators or underfloor heating - Electricity	
Efficiency	377.1%
Emitter type	Both radiators and underfloor
Flow temperature	80°C
System type	
Manufacturer	
Model	
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	100.0%
Commissioning	

5 Hot water

Cylinder/store - type: N/A	
Capacity	110 litres
Declared heat loss	2.09 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: 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	100 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	
Technology type: **Photovoltaic system (1)**	
Peak power	8 kWp
Orientation	South East
Pitch	30°
Overshading	None or very little
Manufacturer	
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: Name:	Assessor ID: Date:
b. Client Declaration	
N/A	