

Building Regulations England Part L (BREL) Compliance Report

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

Date: Tue 13 Aug 2024 20:04:07

Project Information			
Assessed By	Ondrej Gajdos	Building Type	House, End-terrace
OCDEA Registration	EES/027207	Assessment Date	2024-08-13

Dwelling Details			
Assessment Type	As designed	Total Floor Area	73 m ²
Site Reference	HOUSE	Plot Reference	Be Lean
Address	Gondar Gardens, NW6 1EW		

Client Details	
Name	Client
Company	Client
Address	AddressLine1, Town, Postcode

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	Mains gas		
Target carbon dioxide emission rate	13.9 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	14.79 kgCO ₂ /m ²		FAIL
1b Target primary energy rate and dwelling primary energy			
Target primary energy	72.91 kWh _{PE} /m ²		
Dwelling primary energy	84.17 kWh _{PE} /m ²		FAIL
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	44.7 kWh/m ²		
Dwelling fabric energy efficiency	42.0 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	Walls (1) (0.18)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.13	ground (0.13)	OK
Roofs	0.16	0.11	Roof (1) (0.11)	OK
Windows, doors, and roof windows	1.6	1.2	3 (1.2)	OK
Rooflights	2.2	1.2	1, East (1.2)	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)	85.4	0.18
Party wall: Party Wall (1)	38.4	0 (!)
Ground floor: ground, ground	35.5	0.13
Upper floor: exposed below 1F, exposed below 1F	1	0.13
Exposed roof: Roof (1)	42.53	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, 1	2.56	East	0.7	1.2
2, 2	8.04	West	0.7	1.2
3, 3	1.32	West	0.7	1.2
1, 1	1.98	East	0.7	1.2
1, 1	1.615	South	0.7	1.2
2, 2	1.955	South	0.7	1.2

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)	Calculated by person with suitable expertise	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	4 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 - Mains gas

Efficiency	88.9%
Emitter type	Radiators
Flow temperature	
System type	
Manufacturer	Notional
Model	Notional
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	80 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	0.55 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO3, MRXBOXAB-ECO3C	
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	