

Building Regulations England Part L (BREL) Compliance Report

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

Date: Fri 22 Nov 2024 12:56:24

Project Information			
Assessed By	Harry Davey	Building Type	House, Detached
OCDEA Registration	EES/020345	Assessment Date	2024-11-22

Dwelling Details			
Assessment Type	As designed	Total Floor Area	83 m ²
Site Reference	8516	Plot Reference	Green
Address	1 Muswell Mews, London, N10 1BT		

Client Details	
Name	Client
Company	Company
Address	Address, Town, AA11 1AA

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	16.18 kgCO ₂ /m ²
Dwelling carbon dioxide emission rate	3.84 kgCO ₂ /m ² OK

1b Target primary energy rate and dwelling primary energy

Target primary energy	85.33 kWh _{PE} /m ²
Dwelling primary energy	40.32 kWh _{PE} /m ² OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency

Target fabric energy efficiency	58.1 kWh/m ²
Dwelling fabric energy efficiency	52.4 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	0.16	Walls (1) (0.16)	OK
Party walls	0.2	N/A	N/A	N/A
Curtain walls	1.6	N/A	N/A	N/A
Floors	0.18	0.02	Heatloss Floor 3 (0.15)	OK
Roofs	0.16	0.13	Roof (1) (0.13)	OK
Windows, doors, and roof windows	1.6	1.2	Opening (1.2)	OK
Rooflights	2.2	1.2	Opening, North 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)	62.08	0.16
Exposed wall: Walls (2)	110.2375	0.16
Ground floor: Basement, Basement	30.09	0 (!)
Ground floor: Heatloss Floor 2, Heatloss Floor 2	3.79	0.1 (!)
Upper floor: Heatloss Floor 3, Heatloss Floor 3	3.07	0.15
Exposed roof: Roof (1)	42.705	0.13
Exposed roof: Roof (2)	0.142	0.13

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]
Opening, Window	0.8635	North West	0.7	1.2
Opening, Window	0.8635	North West	0.7	1.2
Opening, Window	2.124	North West	0.7	1.2
Opening, Window	1.8601	North West	0.7	1.2
Opening, Window	0.9639	North West	0.7	1.2
Opening, sloped windows	5.838	North East	0.7	1.2
Opening, Window	2.457	North East	0.7	1.2
Opening, Window	0.6105	North East	0.7	1.2
Opening, rooflight	1.445	North East	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	
External wall	E3: Sill	Calculated by person with suitable expertise	0.05	
External wall	E4: Jamb	Calculated by person with suitable expertise	0.05	
Roof	R1: Head of roof window	SAP table default	0.24	
Roof	R2: Sill of roof window	SAP table default	0.24	
Roof	R3: Jamb of roof window	SAP table default	0.24	
Roof	R11: Upstands or kerbs of rooflights	SAP table default	0.24	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.16	
External wall	E19: Ground floor (inverted)	Calculated by person with suitable expertise	0.07	
External wall	E20: Exposed floor (normal)	Calculated by person with suitable expertise	0.32	
External wall	E21: Exposed floor (inverted)	Calculated by person with suitable expertise	0.32	
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0 (!)	
External wall	E24: Eaves (insulation at ceiling level - inverted)	SAP table default	0.15	
External wall	E14: Flat roof	Calculated by person with suitable expertise	0.08	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.09	
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.09	
3 Air permeability (better than typically expected values are flagged with a subsequent (!))				
Maximum permitted air permeability at 50Pa		8 m³/hm²		
Dwelling air permeability at 50Pa		3.5 m³/hm², Design value (!)		OK
Air permeability test certificate reference				
4 Space heating				
Main heating system 1: Heat pump with radiators or underfloor heating - Electricity				
Efficiency		324.1%		
Emitter type		Underfloor		
Flow temperature		35°C		
System type		Heat Pump		
Manufacturer		Mitsubishi Electric Europe B.V.		
Model		Ecodan 8.5 kW		
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		1.8 kWh/day		
Primary pipework insulated		Yes		
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	128 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	0.58 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	90%	OK
Manufacturer/Model	MRXBOXAB-ECO3, MRXBOXAB-ECO3B	
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		