

Building Regulations England Part L (BREL) Compliance Report

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

Date: Mon 16 Oct 2023 15:38:05

Project Information			
Assessed By	Malcolm Lisle	Building Type	Flat, Semi-detached
OCDEA Registration	EES/007070	Assessment Date	2023-10-16

Dwelling Details			
Assessment Type	As designed	Total Floor Area	50 m ²
Site Reference	P23972(3)	Plot Reference	P23972(3)
Address	The Western Flat 3 205 High Street, Rickmansworth, WD3 1BB		

Client Details	
Name	Sasha Archibald
Company	Cordage Group
Address	35 Berkley Square, Mayfair, London, W1J 5BF

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	15.92 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	1.69 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	84.56 kWh _{PE} /m ²		
Dwelling primary energy	21.81 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	39.9 kWh/m ²		
Dwelling fabric energy efficiency	35.8 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	0.13	Walls (1) (0.13)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	N/A	N/A	N/A
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	1	Windows (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 ² K]
Exposed wall: Walls (1)	46.1	0.13 (!)
Party wall: Party Wall (1)	10.68	0 (!)
Exposed roof: Roof (1)	49.84	0.12

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]
Windows, Windows/Doors	2.1	North	0.7	1 (!)
Kitchen, Windows/Doors	4.83	South	0.7	1 (!)
Windows, Windows/Doors	0.4	South	0.7	1 (!)
Panels, Non-Vision Panels	6.6	North	N/A	1 (!)
Balcony, Windows/Doors	4.41	West	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	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.058	
External wall	E3: Sill	Calculated by person with suitable expertise	0.045	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.05	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	0 (!)	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.044	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.062	
External wall	E14: Flat roof	SAP table default	0.16	

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	1 m ³ /hm ² , Design value (!)	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	293.0%
Emitter type	Underfloor
Flow temperature	35°C
System type	Heat Pump
Manufacturer	Mitsubishi Electric Europe B.V.
Model	Ecodan 5.0 kW
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: Cylinder	
Capacity	150 litres
Declared heat loss	1.86 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: N/A	
Manufacturer	
Model	

7 Lighting

Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	91.66666666666667 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	0.42 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	91%	OK
Manufacturer/Model	Sentinel Kinetic Plus BS	
Commissioning		
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	2.4 kWp	
Orientation	Horizontal	
Pitch	Horizontal	
Overshading	Modest	
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:	Assessor ID:	
Name:	Date:	
b. Client Declaration		
N/A		