

Building Regulations England Part L (BREL) Compliance Report

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

Date: Tue 01 Jul 2025 23:44:32

Project Information			
Assessed By	Ondrej Gajdos	Building Type	Flat, End-terrace
OCDEA Registration	EES/027207	Assessment Date	2025-07-02

Dwelling Details			
Assessment Type	As built	Total Floor Area	69 m ²
Site Reference	UNIT 38	Plot Reference	UNIT 38
Address	Flat 39, Alexander House, 205 Kings Road, READING, RG1 4FW		

Client Details	
Name	Client
Company	Client
Address	AddressLine1, 205 Kings Road, 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	Electricity		
Target carbon dioxide emission rate	9.31 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.44 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	49.74 kWh _{PE} /m ²		
Dwelling primary energy	36.3 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	38.1 kWh/m ²		
Dwelling fabric energy efficiency	33.5 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	0.21	Walls (2) (0.23)	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	0.13	Roof (1) (0.13)	OK
Windows, doors, and roof windows	1.6	1.11	2 (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: Walls (1)	25.87	0.2	
Sheltered wall: Walls (2)	16.15	0.23	
Party wall: Party Wall (1)	27.25	0 (!)	
Exposed roof: Roof (1)	31.6	0.13	
Exposed roof: Roof (2)	37	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]
1, 1	6.5	South	N/A	1 (!)
2, 2	3.38	West	0.8	1.2
3, 3	6.5	South	0.8	1.2
1, 1	2.1	North	N/A	1 (!)

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1: 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	0.047	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E3: Sill	Calculated by person with suitable expertise	0.015 (!)	
External wall	E4: Jamb	Calculated by person with suitable expertise	0.047	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	0.07	
External wall	E14: Flat roof	Calculated by person with suitable expertise	0.08	
External wall	E15: Flat roof with parapet	Calculated by person with suitable expertise	0.197	
External wall	E16: Corner (normal)	SAP table default	0.18	
External wall	E18: Party wall between dwellings	SAP table default	0.24	
External wall	E24: Eaves (insulation at ceiling level - inverted)	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	3.59 m ³ /hm ² , Measured value (!)		OK
Air permeability test certificate reference			

4 Space heating

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

Efficiency	224.8%
Emitter type	Radiators
Flow temperature	55°C
System type	
Manufacturer	Haier
Model	AW082MUGHA
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	1.55 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	90 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	0.54 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	88%	OK
Manufacturer/Model	Sentinel Kinetic FH, 408167A	
Commissioning		
9 Local generation		
N/A		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct. 11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required. 11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.		
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 and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.		
Signed:  Name: Ondrej Gajdos	Assessor ID: W452-0001 Date: 2/7/2025	
b. Client Declaration		
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.		
Signed: Name:	Organisation: Date:	