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 23:44:36

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	43 m^2
Site Reference	UNIT 41	Plot Reference	UNIT 41
Address	Flat 42, 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	*12.97 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	4.67 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*69.21 kWh_{PE}/m^2*	
Dwelling primary energy	49.18 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*42.4 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^2K]*	Dwelling average U-Value [W/m^2K]	Element with highest individual U-Value	
External walls	*0.26*	0.22	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*	1.09	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^2K]
Exposed wall: Walls (1)	12.25	0.2
Sheltered wall: Walls (2)	23.15	0.23
Party wall: Party Wall (1)	21.5	0 **(!)**
Exposed roof: Roof (1)	20.8	0.13
Exposed roof: Roof (2)	22.4	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^2K]
1, 1	6.5	West	N/A	1 **(!)**
2, 2	6.5	West	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	
External wall	E3: Sill	Calculated by person with suitable expertise	0.015 **(!)**	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.047	
External wall	E15: Flat roof with parapet	Calculated by person with suitable expertise	0.197	
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	3.84 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	197.7%
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:	Assessor ID:
Name:	Date:

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:	Organisation:
Name:	Date: