

Building Regulations England Part L (BREL) Compliance Report

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

Date: Tue 21 Jan 2025 11:38:54

Project Information			
Assessed By	Connor Lewis	Building Type	Bungalow, Detached
OCDEA Registration	EES/032592	Assessment Date	2025-01-21

Dwelling Details			
Assessment Type	As designed	Total Floor Area	121 m ²
Site Reference	6343-1	Plot Reference	17 panels
Address	34-44 Unit 1 Carlton Avenue, Bognor Regis		

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	Mains gas
Target carbon dioxide emission rate	8.45 kgCO ₂ /m ²
Dwelling carbon dioxide emission rate	8.21 kgCO ₂ /m ² OK

1b Target primary energy rate and dwelling primary energy

Target primary energy	46.26 kWh _{PE} /m ²
Dwelling primary energy	39.49 kWh _{PE} /m ² OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency

Target fabric energy efficiency	45.5 kWh/m ²
Dwelling fabric energy efficiency	42.6 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	0.17	Walls (1) (0.17)	OK
Party walls	0.2	N/A	N/A	N/A
Curtain walls	1.6	N/A	N/A	N/A
Floors	0.18	0.14	Ground floor (0.14)	OK
Roofs	0.16	0.11	Roof (1) (0.11)	OK
Windows, doors, and roof windows	1.6	1.4	Opening (1.4)	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)	92.633	0.17
Ground floor: Ground floor, Ground floor	120.54	0.14
Exposed roof: Roof (1)	120.54	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]
Opening, Door	2.1522	South	N/A	1.4
Opening, Window	0.69185	East	0.7	1.4
Opening, Window	0.69185	East	0.7	1.4
Opening, Window	1.2625	East	0.7	1.4
Opening, Window	1.2625	East	0.7	1.4
Opening, Window	2.0996	East	0.7	1.4
Opening, HGD	2.1522	North	N/A	1.4
Opening, Window	2.0996	East	0.7	1.4
Opening, Window	2.0996	East	0.7	1.4
Opening, Window	2.0996	East	0.7	1.4
Opening, Window	6.4355	East	0.7	1.4

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	0.026 (!)	
External wall	E3: Sill	Calculated by person with suitable expertise	0.015 (!)	
External wall	E4: Jamb	Calculated by person with suitable expertise	0.015 (!)	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.0375 (!)	
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.032 (!)	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.033 (!)	
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.064	

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	88.8%	
Emitter type	Radiators	
Flow temperature		
System type	Regular boiler	
Manufacturer	Viessmann Ltd	
Model	VITODENS 100-W	
Commissioning		
Secondary heating system: N/A		
Fuel	N/A	
Efficiency	N/A	
Commissioning		

5 Hot water

Cylinder/store - type: Cylinder		
Capacity	300 litres	
Declared heat loss	2.03 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	80 lm/W	OK
External lights control	N/A	

8 Mechanical ventilation		
System type: Decentralised mechanical extract		
Maximum permitted specific fan power	0.7 W/(l/s)	
Specific fan power	0.31 W/(l/s)	OK
Minimum permitted heat recovery efficiency	N/A	
Heat recovery efficiency	N/A	N/A
Manufacturer/Model	Eco dMEV+	
Commissioning		
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	7.565 kWp	
Orientation	West	
Pitch	30°	
Overshading	None or very little	
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		