

Building Regulations England Part L (BREL) Compliance Report

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

Date: Tue 04 Nov 2025 10:38:00

Project Information			
Assessed By	Connor Lewis	Building Type	Bungalow, Detached
OCDEA Registration	EES/032592	Assessment Date	2025-11-04

Dwelling Details			
Assessment Type	As designed	Total Floor Area	88 m ²
Site Reference	9324 - New build	Plot Reference	00001
Address	Plot 2 Brighton Road, Handcross, RH17 6BZ		

Client Details	
Name	.
Company	.
Address	., ., .

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	11.33 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.77 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	60.94 kWh _{PE} /m ²		
Dwelling primary energy	44.33 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	53.2 kWh/m ²		
Dwelling fabric energy efficiency	49.8 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	0.18	Walls (2) (0.24)	OK
Party walls	0.2	N/A	N/A	N/A
Curtain walls	1.6	N/A	N/A	N/A
Floors	0.18	0.12	Ground floor (0.12)	OK
Roofs	0.16	0.11	Roof (2) (0.24)	OK
Windows, doors, and roof windows	1.6	1.21	Opening (1.3)	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)	85.0744	0.17
Exposed wall: Walls (2)	7.51	0.24
Ground floor: Ground floor, Ground floor	88.44	0.12
Exposed roof: Roof (1)	85.32	0.11
Exposed roof: Roof (2)	2.678	0.24

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	1.953	East	N/A	1.2
Opening, Window	1.8	East	0.7	1.2
Opening, Window	1.2	East	0.7	1.2
Opening, Window	1.2	East	0.7	1.2
Opening, Window	1.26	East	0.7	1.2
Opening, Roof window	0.936	East	0.7	1.3
Opening, Roof window	0.936	East	0.7	1.3
Opening, Window	1.392	South	0.7	1.2
Opening, Window	1.392	West	0.7	1.2
Opening, Window	2.088	West	0.7	1.2
Opening, Window	0.7656	West	0.7	1.2
Opening, Window	5.817	West	0.7	1.2

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
Opening, Window	2.088	North	0.7	1.2

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	0.026 (!)	
External wall	E3: Sill	Calculated by person with suitable expertise	0.023 (!)	
External wall	E4: Jamb	Calculated by person with suitable expertise	0.018 (!)	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.053	
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	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.04	
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.082	
External wall	E16: Corner (normal)	SAP table default	0.18	upstand
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.055	
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.037 (!)	
External wall	E24: Eaves (insulation at ceiling level - inverted)	SAP table default	0.15	
Roof	R7: Flat ceiling (inverted)	SAP table default	0.12	
Roof	R10: All other roof or room-in-roof junctions	SAP table default	0.32	

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	5 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	299.5%
Emitter type	Both radiators and underfloor
Flow temperature	45°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	200 litres
Declared heat loss	2.1 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: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	1.07 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	88%	OK
Manufacturer/Model	Sentinel Kinetic B	
Commissioning		
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	1.8 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		

Predicted Energy Assessment



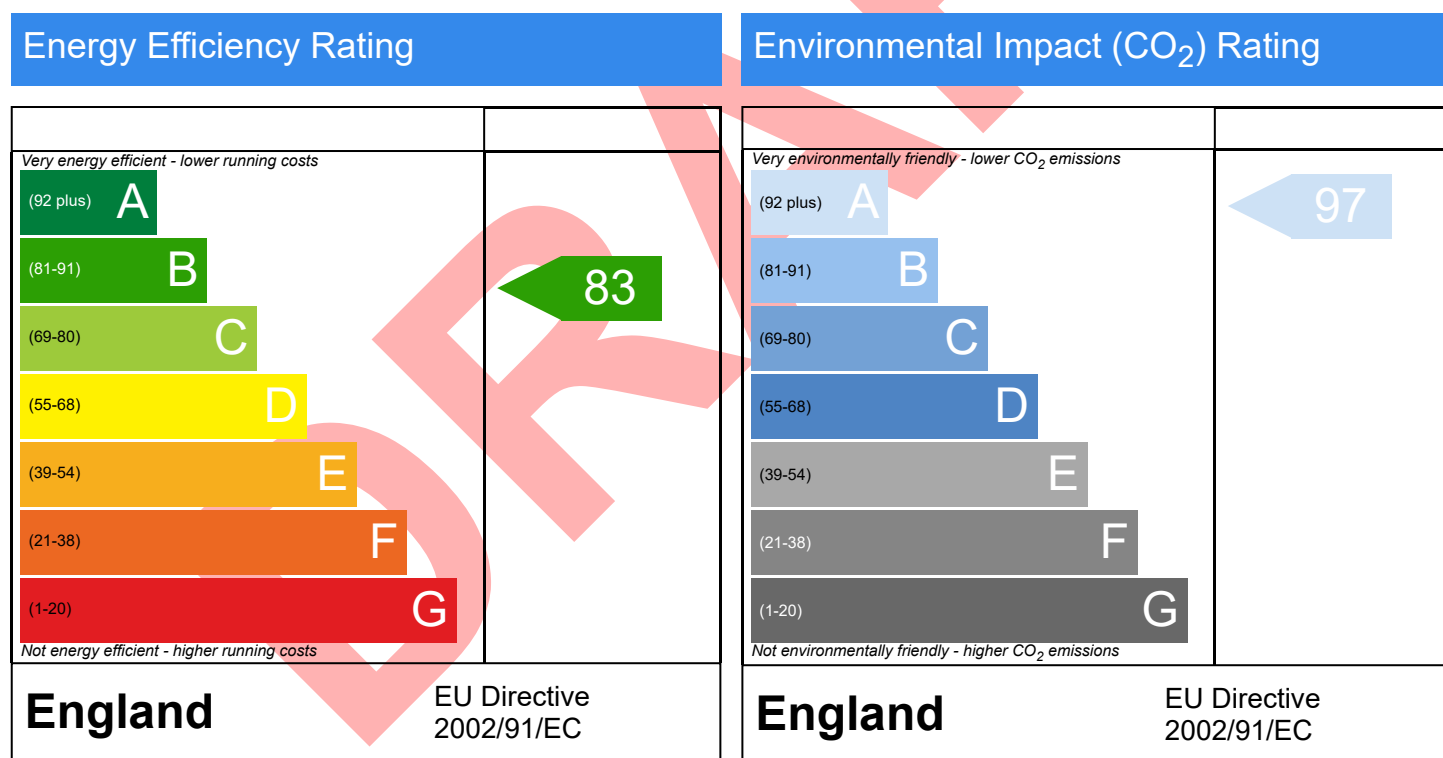
Plot 2, Brighton Road, Handcross, RH17 6BZ

Dwelling type:
Date of assessment:
Produced by:
Total floor area:
DRRN:

Bungalow, Detached
04/11/2025
Connor Lewis
88.44 m²

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

The energy performance has been assessed using the Government approved SAP 10 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.