

Building Regulations England Part L (BREL) Compliance Report

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

Date: Fri 22 May 2026 08:27:28

Project Information			
Assessed By	Harry Davey	Building Type	House, Detached
OCDEA Registration	EES/020345	Assessment Date	2026-05-22

Dwelling Details			
Assessment Type	As designed	Total Floor Area	444 m ²
Site Reference	10134	Plot Reference	00001
Address	LSO Sunningdale Horsham Road, Steyning, BN44 3AA		

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	7.48 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	1.65 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	41.45 kWh _{PE} /m ²		
Dwelling primary energy	20.85 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	47.3 kWh/m ²		
Dwelling fabric energy efficiency	36.9 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	0.12	Walls (1) (0.12)	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	Heatloss Floor (0.12)	OK
Roofs	0.16	0.12	Roof (1) (0.12)	OK
Windows, doors, and roof windows	1.6	0.7	Opening (0.7)	OK
Rooflights	2.2	0.7	Opening, South East (0.7)	OK

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)	337.2474	0.12	(!)
Ground floor: Heatloss Floor , Heatloss Floor	282.78	0.12	
Exposed roof: Roof (1)	157.18	0.12	
Exposed roof: Roof (2)	120.04	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]
Opening, window	19.2136	East	0.75	0.7 (!)
Opening, window	9.87	East	0.75	0.7 (!)
Opening, window	1.995	East	0.75	0.7 (!)
Opening, window	3.52	East	0.75	0.7 (!)
Opening, window	3.8335	East	0.75	0.7 (!)
Opening, window	7.125	East	0.75	0.7 (!)
Opening, window	2.875	East	0.75	0.7 (!)
Opening, window	2.875	East	0.75	0.7 (!)
Opening, window	5	North East	0.75	0.7 (!)
Opening, window	1.4	North East	0.75	0.7 (!)
Opening, window	4.4	North East	0.75	0.7 (!)
Opening, window	3.15	North	0.75	0.7 (!)
Opening, window	9.8	West	0.75	0.7 (!)

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
Opening, window	3.45	West	0.75	0.7 (!)
Opening, window	3	West	0.75	0.7 (!)
Opening, window	8.425	South	0.75	0.7 (!)
Opening, window	13.75	South	0.75	0.7 (!)
Opening, window	9.125	South	0.75	0.7 (!)
Opening, window	5.13	South	0.75	0.7 (!)
Opening, window	2.3655	South	0.75	0.7 (!)
Opening, window	5.415	South	0.75	0.7 (!)
Opening, window	3.445	South West	0.75	0.7 (!)
Opening, rooflight	3.75	South East	0.7	0.7
Opening, rooflight	3.75	South East	0.7	0.7

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	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0 (!)	
External wall	E14: Flat roof	Calculated by person with suitable expertise	0.08	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.09	
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.09	
External wall	E24: Eaves (insulation at ceiling level - inverted)	SAP table default	0.15	
External wall	E1: Steel lintel with perforated steel base plate	Calculated by person with suitable expertise	0.05	
External wall	E3: Sill	Calculated by person with suitable expertise	0.05	
External wall	E4: Jamb	Calculated by person with suitable expertise	0.05	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.16	
Roof	R11: Upstands or kerbs of rooflights	SAP table default	0.24	

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 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	299.7%
Emitter type	Underfloor
Flow temperature	35°C
System type	Heat Pump
Manufacturer	Bosch Thermotechnology Ltd
Model	Greensource 9.5 kW
Commissioning	

Secondary heating system: Closed room heater

Fuel	Wood logs
Efficiency	65.0%
Commissioning	

5 Hot water

Cylinder/store - type: Cylinder

Capacity	300 litres
Declared heat loss	1.9 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	1.36 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	87%	OK
Manufacturer/Model	MRXBOXAB-ECO3	
Commissioning		
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	5 kWp	
Orientation	South	
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		