

Building Regulations England Part L (BREL) Compliance Report

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

Date: Tue 10 Jun 2025 12:49:01

Project Information			
Assessed By	Daniel Watt	Building Type	House, Detached
OCDEA Registration	EES/027301	Assessment Date	2025-06-10

Dwelling Details			
Assessment Type	As designed	Total Floor Area	164 m ²
Site Reference	Plot 02 Church Lane, Middleton	Plot Reference	Church Lane, Middleton
Address	9 Bluestone Drive, Stockport, SK4 3PX		

Client Details	
Name	JC Brennan
Company	JC Brennan
Address	Manchester, Manchester, XXXXX

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	10.99 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	4.11 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	57.64 kWh _{PE} /m ²		
Dwelling primary energy	42.58 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	44.1 kWh/m ²		
Dwelling fabric energy efficiency	43.7 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 (1) (0.18)	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 1 (0.12)	OK
Roofs	0.16	0.16	Roof (1) (0.16)	OK
Windows, doors, and roof windows	1.6	1.3	West Door (1.3)	OK
Rooflights	2.2	1.3	South Window, South (1.3)	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)	203.4325	0.18
Ground floor: Heatloss Floor 1, Heatloss Floor 1	58.16	0.12
Exposed roof: Roof (1)	59.06	0.16

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]
West Door, Door	1.995	West	N/A	1.3
West Window, Window	0.78	West	0.7	1.3
West Window, Window	1.5625	West	0.7	1.3
West Window, Window	1.5625	West	0.7	1.3
West Window, Window	3.915	West	0.7	1.3
West Window, Window	0.525	West	0.7	1.3
North Window, Window	0.8125	North	0.7	1.3
North Window, Window	0.8125	North	0.7	1.3
North Window, Window	0.8125	North	0.7	1.3
North Window, Window	0.8125	North	0.7	1.3
North Window, Window	0.8125	North	0.7	1.3
North Window, Window	0.725	North	0.7	1.3
South Window, Window	0.8125	South	0.7	1.3

Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
South Window, Window	0.8125	South	0.7	1.3
South Window, Window	0.725	South	0.7	1.3
South Window, Roof Light	0.6	South	0.7	1.3
South Window, Roof Light	0.6	South	0.7	1.3
South Window, Roof Light	0.6	South	0.7	1.3
South Window, Roof Light	0.6	South	0.7	1.3
East Window, Window	1.5625	East	0.7	1.3
East Window, Window	1.5625	East	0.7	1.3
East Window, Window	1.5625	East	0.7	1.3
East Window, Window	1.5625	East	0.7	1.3
East Window, Window	6.3	East	0.7	1.3

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)	Not government-approved scheme	0.03 (!)	
External wall	E3: Sill	Not government-approved scheme	0.04	
External wall	E4: Jamb	Not government-approved scheme	0.05	
External wall	E5: Ground floor (normal)	Not government-approved scheme	0.16	
External wall	E6: Intermediate floor within a dwelling	Not government-approved scheme	0.001 (!)	
External wall	E16: Corner (normal)	Not government-approved scheme	0.09	
External wall	E17: Corner (inverted - internal area greater than external area)	Not government-approved scheme	-0.09	
External wall	E11: Eaves (insulation at rafter level)	Not government-approved scheme	0.04	
External wall	E13: Gable (insulation at rafter level)	Not government-approved scheme	0.04	
Roof	R1: Head of roof window	Not government-approved scheme	0.08	
Roof	R2: Sill of roof window	Not government-approved scheme	0.06	
Roof	R3: Jamb of roof window	Not government-approved scheme	0.08	
Roof	R4: Ridge (vaulted ceiling)	Not government-approved scheme	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	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	249.9%
Emitter type	Both radiators and underfloor
Flow temperature	35°C
System type	Air source heat pump
Manufacturer	
Model	
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	N/A	
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	75 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: N/A		
Maximum permitted specific fan power	N/A	
Specific fan power	N/A	N/A
Minimum permitted heat recovery efficiency	N/A	
Heat recovery efficiency	N/A	N/A
Manufacturer/Model		
Commissioning		
9 Local generation		
N/A		
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		