

Building Regulations England Part L (BREL) Compliance Report

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

Date: Wed 08 Oct 2025 14:24:39

Project Information			
Assessed By	Paul Byrne	Building Type	House, Detached
OCDEA Registration	EES/027208	Assessment Date	2025-10-08

Dwelling Details			
Assessment Type	As designed	Total Floor Area	204 m ²
Site Reference	New dwelling	Plot Reference	00001
Address	95 Marland Fold, Rochdale, OL11 4RF		

Client Details	
Name	Barry Murphy
Company	Triangle Architects Ltd
Address	Lower Ground Floor, 4 Jordan Street, Manchester, M15 4PY

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	8.77 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	0.32 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	46.53 kWh _{PE} /m ²		
Dwelling primary energy	3.44 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	43.7 kWh/m ²		
Dwelling fabric energy efficiency	43.6 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	0.15	Walls (1) (0.15)	OK
Party walls	0.2	N/A	N/A	N/A
Curtain walls	1.6	N/A	N/A	N/A
Floors	0.18	0.08	Ground floor (0.08)	OK
Roofs	0.16	0.11	Roof (1) (0.11)	OK
Windows, doors, and roof windows	1.6	1.37	Front (1.4)	OK
Rooflights	2.2	1.4	Side, South West (1.4)	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)	161.6	0.15	
Ground floor: Ground floor, Ground floor	117.6	0.08 (!)	
Exposed roof: Roof (1)	117.7	0.11	
Exposed roof: Roof (2)	19.4	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]
Front, Solid door	2.4	South East	N/A	0.9 (!)
Front, Window	12.2	South East	0.7	1.4
Rear, Window	19.7	North West	0.7	1.4
Side, Window	4.1	South West	0.7	1.4
Side, Roof light	1.8	South West	0.7	1.4
Side, Window	1.4	North East	0.7	1.4

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	0.3	Assumed

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E3: Sill	Calculated by person with suitable expertise	0.04	Assumed
External wall	E4: Jamb	Calculated by person with suitable expertise	0.05	Assumed
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.16	Assumed
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.07	Assumed
External wall	E11: Eaves (insulation at rafter level)	Calculated by person with suitable expertise	0.04	Assumed
External wall	E13: Gable (insulation at rafter level)	Calculated by person with suitable expertise	0.04	Assumed
External wall	E14: Flat roof	Calculated by person with suitable expertise	0.08	Assumed
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.09	Assumed
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.09	Assumed

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: Heat pump with radiators or underfloor heating - Electricity

Efficiency	266.7%
Emitter type	Both radiators and underfloor
Flow temperature	45°C
System type	Heat Pump
Manufacturer	Samsung Electronics Air Conditioner Europe B.V.
Model	AE080RXYDEG
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: Cylinder

Capacity	250 litres
Declared heat loss	1.8 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	1.21 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	86%	OK
Manufacturer/Model	MRXBOXAB-ECO2, MRXBOXAB-ECO2C	
Commissioning		
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	7 kWp	
Orientation	South 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		