Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed using Kaizen SAP 10.2 SAP 10 program, 1.0.1

Date: Tue 04 Mar 2025 09:41:48

Project Information			
Assessed By	Carrie Morris	Building Type	House, Detached
OCDEA Registration	KAZN000005	Assessment Date	2025-02-28

Dwelling Details			
Assessment Type	As built	Total Floor Area	211 m^2
Site Reference	002 Hookhams Lane	Plot Reference	002 Hookhams Lane
Address	82 Hookhams Lane, Renhold, Bedford, MK41 0JX		

Client Details	
Name	RCF Developments
Company	RCF Developments
Address	16 Florence Drive, ENFIELD, EN2 8DG

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	*7.37 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	3.50 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*39.42 kWh_{PE}/m^2*	
Dwelling primary energy	36.41 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*41.29 kWh/m^2*	
Dwelling fabric energy efficiency	40.66 kWh/m^2	OK

2a Fabric U-values				
Element	***Maximum permitted average U-Value [W/m^2K]***	**Dwelling average U-Value [W/m^2K]**	**Element with highest individual U-Value**	
External walls	*0.26*	0.16	Wl - Dormer (0.22)	OK
Party walls	*0.2*	N/A	N/A	**N/A**
Curtain walls	*1.6*	N/A	N/A	**N/A**
Floors	*0.18*	0.13	Flr - Exposed Floor (0.17)	OK
Roofs	*0.16*	0.12	Rf - Ins Joist Ashlar (0.15)	OK
Windows, doors, and roof windows	*1.6*	1.19	Front (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^2K]**
Exposed wall: Brick	92.069	0.21
Exposed wall: Wl - Dormer	5.465	0.22
Exposed wall: Wl - Stud Ashlar	79.505	0.09 **(!)**
Ground floor: Flr - Ground	119.003	0.12
Ground floor: Flr - Exposed Floor	14.193	0.17
Exposed roof: Rf - Ins Rafter	63.249	0.13
Exposed roof: Rf - Ashlar behind Stud	39.645	0.09 **(!)**
Exposed roof: Rf - Ins Joist Ashlar	39.734	0.15

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	**Area [m^2]**	**Orientation**	**Frame factor**	**U-Value [W/m^2K]**
Front, Door (1)	1.953	South West	0.7	1.2
Front, Windows (1)	5.301	South West	1.0	1.2
L Side, Windows (2)	5.979	North West	1.0	1.2
L Side Front, Windows (3)	1.052	West	1.0	1.2
R Side Front, Windows (4)	1.052	South		0 **(!)**
Rear, Windows (5)	2.646	North East	1.0	1.2
Rear, Windows (6)	2.092	North East	1.0	1.2
Rear, Windows (7)	11.372	North East	1.0	1.2
Front, RoofLights (1)	1.678	South West	0.7	1.3

Name	Area [m^2]	Orientation	Frame factor	U-Value [W/m^2K]
L Side, RoofLights (2)	2.517	North West	0.7	1.3
R Side, RoofLights (3)	1.986	South East	0.7	1.3
Rear, RoofLights (4)	0.839	North East	0.7	1.3

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	0.196	Not Provided
External wall	E4: Jamb	Calculated by person with suitable expertise	0.067	Not Provided
External wall	E3: Sill	Calculated by person with suitable expertise	0.098	Not Provided
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.116	Not Provided
External wall	E11: Eaves (insulation at rafter level)	Calculated by person with suitable expertise	0.023 **(!)**	Not Provided
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.054	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.012 **(!)**	Not Provided
External wall	E21: Exposed floor (inverted)	SAP table default	0.32	Not Provided
Roof	R1: Head of roof window	Calculated by person with suitable expertise	0.058	Not Provided
Roof	R2: Sill of roof window	Calculated by person with suitable expertise	0.049	Not Provided
Roof	R3: Jamb of roof window	Calculated by person with suitable expertise	0.058	Not Provided
Roof	R4: Ridge (vaulted ceiling)	SAP table default	0.12	Not Provided
Roof	R8: Roof to wall (rafter)	SAP table default	0.12	Not Provided
Roof	R7: Flat ceiling (inverted)	SAP table default	0.12	Not Provided

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	4.41 m^3/hm^2, Measured value	OK
Air permeability test certificate reference		

4 Space heating	
Main heating system 1: Heat pump with radiators or underfloor heating - Electricity	
Efficiency	278.3479074650549%
Emitter type	Radiators
Flow temperature	45°C
System type	HeatPumpsWet
Manufacturer	Daikin Altherma
Model	ERLA11DV3 + EBBH11D6V
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	1.752 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	101.25 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	
Documentary evidence identified in 11.1 and 11.2 is needed to confirm the data values used for any calculations undertaken, manufacturer declarations made, and tests performed as reflected in this "As built" BREL Compliance Report are correct. 11.1 SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required. 11.2 Indicative photographic evidence of key stages during construction (guidance within Approved Document L, Volume 1 – Appendix B) that confirms the products identified in this BREL Compliance Report are used in this dwelling, and workmanship is of sufficient quality to support the calculated values claimed in 2a to 2d.	

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 and construction information submitted for this dwelling for the purpose of carrying out the assessment, and that the supporting documentary evidence (identified in 11.1 and 11.2) pursuant to Part L of the Building Regulations 2010 (as amended) has been reviewed in the course of preparing this BREL Compliance Report.	
Signed: Name: Carrie Morris	Assessor ID: KAZN000005 Date: 04 Mar 2025
b. Client Declaration	
This declaration by the client is confirmation that the dwelling has been constructed and completed according to the specifications set out in this BREL Compliance Report, and that photographic evidence of key stages, as described in 11.2, has been provided to the Assessor for this dwelling.	
Signed: Name: RCF Developments	Organisation: RCF Developments Date: