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: Wed 05 Feb 2025 09:57:09

Project Information			
Assessed By	Joanna Povey	Building Type	House, Detached
OCDEA Registration	KAZN000004	Assessment Date	2025-01-29

Dwelling Details			
Assessment Type	As designed	Total Floor Area	236 m^2
Site Reference	68	Plot Reference	2412-A
Address	15 Spruce Close, Goffs Oak, Waltham Cross, EN7 5FY		

Client Details	
Name	Matthew
Company	Matthew
Address	Not Provided, Not Provided, AL9 5HZ

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	Mains gas	
Target carbon dioxide emission rate	*8.31 kgCO_2/m^2*	
Dwelling carbon dioxide emission rate	7.86 kgCO_2/m^2	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*44.54 kWh$_{PE}$/m^2*	
Dwelling primary energy	39.80 kWh$_{PE}$/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*45.16 kWh/m^2*	
Dwelling fabric energy efficiency	41.28 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*	0.24	Wl - Dormer (0.26)	OK
Party walls	*0.2*	N/A	N/A	**N/A**
Curtain walls	*1.6*	N/A	Wl - 3 (0.24)	OK
Floors	*0.18*	0.12	Flr - Exposed Floor (0.15)	OK
Roofs	*0.16*	0.1	Rf - Ins Rafter (0.16)	OK
Windows, doors, and roof windows	*1.6*	1.29	L Side (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: Wl - 1	188.41	0.24
Exposed wall: Wl - 3	14.349	0.24
Exposed wall: Wl - Dormer	4.694	0.26
Exposed wall: Wl - Stud	13.483	0.23
Ground floor: Flr - Ground	101.492	0.11
Ground floor: Flr - Exposed Floor	40.26	0.15
Exposed roof: Rf - Ins Joist	123.693	0.09 **(!)**
Exposed roof: Rf - Ins Rafter	17.189	0.16
Exposed roof: Rf - Ins Joist 2	3.34	0.11
Exposed roof: Rf - Ext Roof 4	1.256	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^2K]**
Front, Door (1)	2.148	East	0.7	1.2
Front, Door (2)	1.89	East	0.7	1.2
L Side, Door (3)	1.89	South	1.0	1.3
Front, Windows (1)	7.475	East	1.0	1.3
L Side, Windows (2)	2.601	South	1.0	1.3
R Side, Windows (3)	0.724	North	1.0	1.3
Rear, Windows (4)	17.933	West	1.0	1.3

Name	Area [m^2]	Orientation	Frame factor	U-Value [W/m^2K]
R Side, Windows (5)	2.786	North	1.0	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)	Government-approved scheme	0.044	Not Provided
External wall	E4: Jamb	Government-approved scheme	0.01 **(!)**	Not Provided
External wall	E3: Sill	Government-approved scheme	0.009 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Government-approved scheme	0.06	Not Provided
External wall	E6: Intermediate floor within a dwelling	Government-approved scheme	0.003 **(!)**	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Government-approved scheme	0.04	Not Provided
External wall	E11: Eaves (insulation at rafter level)	SAP table default	-0.027 **(!)**	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Government-approved scheme	0.044	Not Provided
External wall	E13: Gable (insulation at rafter level)	Government-approved scheme	0.046	Not Provided
External wall	E16: Corner (normal)	Government-approved scheme	0.029 **(!)**	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	SAP table default	-0.129	Not Provided
External wall	E20: Exposed floor (normal)	Government-approved scheme	0.034 **(!)**	Not Provided
External wall	E21: Exposed floor (inverted)	Government-approved scheme	0.146	Not Provided
External wall	E24: Eaves (insulation at ceiling level - inverted)	Government-approved scheme	0.107	Not Provided
Roof	R1: Head of roof window	Government-approved scheme	0.05	Not Provided
Roof	R2: Sill of roof window	Government-approved scheme	0.049	Not Provided
Roof	R6: Flat ceiling	SAP table default	-0.001 **(!)**	Not Provided
Roof	R7: Flat ceiling (inverted)	Government-approved scheme	0.021 **(!)**	Not Provided
Roof	R8: Roof to wall (rafter)	Government-approved scheme	0.12	Not Provided
Roof	R10: All other roof or room-in-roof junctions	Government-approved scheme	0.029 **(!)**	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 m^3/hm^2, Design value	OK
Air permeability test certificate reference		

4 Space heating	
Main heating system 1: Boiler with radiators or underfloor heating - Mains gas	
Efficiency	181.1%
Emitter type	Radiators
Flow temperature	55°C
System type	Gas1998OrLater
Manufacturer	
Model	
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	2.06 kWh/day
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

Waste water heat recovery system 1 - type: Instantaneous	
Efficiency	1%
Manufacturer	Q-Blue B.V.
Model	QB1-21

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: Decentralised mechanical extract		
Maximum permitted specific fan power	*0.7 W/(l/s)*	
Specific fan power	0.01 W/(l/s)	**OK**
Minimum permitted heat recovery efficiency	*N/A*	
Heat recovery efficiency	1%	**N/A**
Manufacturer/Model	0	
Commissioning		

9 Local generation	
Technology type: **Photovoltaic system (1)**	
Peak power	5.67 kWp
Orientation	West
Pitch	30°
Overshading	None or very little
Manufacturer	Not Provided
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: KAZN000004
Name: Joanna Povey	Date: 05 Feb 2025

b. Client Declaration

N/A