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 13:57:57

Project Information			
Assessed By	Joanna Povey	Building Type	House, Detached
OCDEA Registration	KAZN000004	Assessment Date	2025-03-04

Dwelling Details			
Assessment Type	As built	Total Floor Area	116 m^2
Site Reference	209 Penshurst v2	Plot Reference	209 Penshurst v2
Address	1, Crupper Road, Braintree, CM7 5YD		

Client Details	
Name	Dandara Eastern
Company	Dandara Eastern
Address	Majesty House, Avenue West, Skyline 120, BRAINTREE, CM77 7AA

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	*10.56 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	10.37 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*55.13 kWh_{PE}/m^2*	
Dwelling primary energy	54.26 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*40.93 kWh/m^2*	
Dwelling fabric energy efficiency	39.51 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*	0.23	Wl - Brick (0.24)	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	Flr - Ground (0.12)	OK
Roofs	*0.16*	0.1	Rf - Flat over Bay (0.2)	OK
Windows, doors, and roof windows	*1.6*	1.28	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: Wl - Brick	45.883	0.24
Exposed wall: Wl - Clad	84.837	0.23
Ground floor: Flr - Ground	59.572	0.12
Exposed roof: Rf - Ins Joist	56.263	0.09 **(!)**
Exposed roof: Rf - Flat over Bay	3.308	0.2

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	South	0.7	1 **(!)**
Front, Windows (1)	6.067	South	1.0	1.3
L Side, Windows (2)	6.796	West	1.0	1.3
R Side, Windows (3)	3.911	East	1.0	1.3
Rear, Windows (4)	1.987	North	1.0	1.3
Front, Windows (5)	4.015	South	1.0	1.3
L Side, Windows (6)	2.04	West	1.0	1.3
R Side, Windows (7)	1.498	East	1.0	1.3
Rear, Windows (8)	0.658	North	1.0	1.3
R Side, Windows (9)	2.618	East	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)	Calculated by person with suitable expertise	0.057	Not Provided
External wall	E4: Jamb	Calculated by person with suitable expertise	0.021 **(!)**	Not Provided
External wall	E3: Sill	Calculated by person with suitable expertise	0.016 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.022 **(!)**	Not Provided
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.003 **(!)**	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.071	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.044	Not Provided
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.039 **(!)**	Not Provided
External wall	E24: Eaves (insulation at ceiling level - inverted)	SAP table default	0.15	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	3.75 m^3/hm^2, Measured value **(!)**	OK
Air permeability test certificate reference		

4 Space heating	
Main heating system 1: Boiler with radiators or underfloor heating - Mains gas	
Efficiency	89%
Emitter type	Radiators
Flow temperature	55°C
System type	Gas1998OrLater
Manufacturer	Ideal
Model	LOGIC CODE COMBI ESP1
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: Cylinder	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Programmer, room thermostat, and TRVs	
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	N/A	**N/A**
Manufacturer/Model	Vent Axia Ltd Lo-Carbon NBR dMEV C 100	
Commissioning		

9 Local generation	
Technology type: **Photovoltaic system (1)**	
Peak power	2.43 kWp
Orientation	South
Pitch	45°
Overshading	None or very little
Manufacturer	Not Provided
MCS certificate	

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: Joanna Povey	Assessor ID: KAZN000004 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: Dandara Eastern	Organisation: Dandara Eastern Date: