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: Thu 27 Feb 2025 10:28:35

Project Information			
Assessed By	Carrie Morris	Building Type	House, Detached
OCDEA Registration	KAZN000005	Assessment Date	2025-02-27

Dwelling Details			
Assessment Type	As built	Total Floor Area	170 m^2
Site Reference	077 - Marlborough	Plot Reference	077 - Marlborough
Address	83 Granville Drive, Chapel Park, NE5 1SH		

Client Details	
Name	Gentoo Homes
Company	Gentoo Homes
Address	Emperor House, 2 Emperor Way, Doxford International Business Park, SUNDERLAND, SR3 3XR

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	*8.45 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	8.29 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*44.28 kWh_{PE}/m^2*	
Dwelling primary energy	42.30 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*38.49 kWh/m^2*	
Dwelling fabric energy efficiency	37.38 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	Brick (0.23)	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*	0.09	GRP Bay Roof (0.23)	OK
Windows, doors, and roof windows	*1.6*	1.32	R Side (1.4)	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	154.807	0.23
Ground floor: Flr - Ground	86.463	0.12
Exposed roof: Rf - Ins Joist	84.02	0.09 **(!)**
Exposed roof: GRP Bay Roof	2.444	0.23

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)	2.147	North East	0.7	1.2
R Side, Door (2)	1.911	North West	1.0	1.4
Rear, Windows (1)	6.657	South West	1.0	1.4
Front, Windows (2)	8.512	North East	1.0	1.3
R Side, Windows (3)	2.899	North West	1.0	1.3
L Side, Windows (4)	2.745	South East	1.0	1.3
Rear, Windows (5)	10.74	South West	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	0.019 **(!)**	Not Provided
External wall	E3: Sill	Calculated by person with suitable expertise	0.007 **(!)**	Not Provided
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.095	Not Provided
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.002 **(!)**	Not Provided
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.037 **(!)**	Not Provided
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.049	Not Provided
External wall	E14: Flat roof	Calculated by person with suitable expertise	0.15	Not Provided
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.041	Not Provided
External wall	E17: Corner (inverted - internal area greater than external area)	Calculated by person with suitable expertise	-0.09	Not Provided
External wall	E24: Eaves (insulation at ceiling level - inverted)	Calculated by person with suitable expertise	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	3.06 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	90.65%
Emitter type	Radiators
Flow temperature	55°C
System type	Gas1998OrLater
Manufacturer	Baxi
Model	ASSURE 524 SYSTEM 2
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	1.61 kWh/day
Primary pipework insulated	Yes
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: Instantaneous	
Efficiency	69.4%
Manufacturer	Q-Blue B.V.
Model	QB1-21
Waste water heat recovery system 2 - type: Instantaneous	
Efficiency	69.4%
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	N/A	**N/A**
Manufacturer/Model	Zehnder Group UK Ltd Unity CV2.1	
Commissioning		

9 Local generation	
Technology type: **Photovoltaic system (1)**	
Peak power	2.835 kWp
Orientation	South West
Pitch	30°
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:	Assessor ID: KAZN000005
Name: Carrie Morris	Date: 27 Feb 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:	Organisation: Gentoo Homes
Name: Gentoo Homes	Date: