Building Regulations England Part L (BREL) Compliance Report

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

Date: Thu 17 Apr 2025 09:04:26

Project Information			
Assessed By	Stuart Milne	Building Type	Maisonette, Detached
OCDEA Registration	EES/022853	Assessment Date	2025-04-17

Dwelling Details			
Assessment Type	As designed	Total Floor Area	60 m^2
Site Reference	021 Blackadon	Plot Reference	001
Address	21 Mead Park, Barnstaple, EX31		

Client Details	
Name	Leigh Florence
Company	Cavanna Homes
Address	Mead Park, Barnstaple, EX31

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	*15.72 $kgCO_2/m^2$*	
Dwelling carbon dioxide emission rate	5.36 $kgCO_2/m^2$	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	*82.84 kWh_{PE}/m^2*	
Dwelling primary energy	55.83 kWh_{PE}/m^2	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	*50.0 kWh/m^2*	
Dwelling fabric energy efficiency	50.0 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	Walls (1) (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*	0.16	Heatloss Floor 2 (0.16)	OK
Roofs	*0.16*	0.09	Roof (1) (0.09)	OK
Windows, doors, and roof windows	*1.6*	1.18	W01 (1.2)	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: Walls (1)	89.115956	0.24
Sheltered wall: Walls (2)	9.12	0.18
Ground floor: Heatloss Floor 1, Heatloss Floor 1	4.58	0.11
Upper floor: Heatloss Floor 2, Heatloss Floor 2	50.6	0.16
Exposed roof: Roof (1)	55.18	0.09 **(!)**

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	**Area [m^2]**	**Orientation**	**Frame factor**	**U-Value [W/m^2K]**
DE01, Front Door	2.104294	West	N/A	1.1 **(!)**
W01, Windows	1.4856	West	0.7	1.2
W02, Windows	0.70875	West	0.7	1.2
W03, Windows	1.4856	West	0.7	1.2
W04, Windows	2.16	East	0.7	1.2
W05, Windows	1.2999	East	0.7	1.2
W06, Windows	1.2999	East	0.7	1.2

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)	Government-approved scheme	0.03 **(!)**	RCD
External wall	E3: Sill	Government-approved scheme	0.022 **(!)**	RCD
External wall	E4: Jamb	Government-approved scheme	0.017 **(!)**	RCD
External wall	E6: Intermediate floor within a dwelling	Government-approved scheme	0.003 **(!)**	RCD
External wall	E16: Corner (normal)	Government-approved scheme	0.041	RCD
External wall	E5: Ground floor (normal)	Government-approved scheme	0.045	RCD
External wall	E10: Eaves (insulation at ceiling level)	Government-approved scheme	0.043	RCD
External wall	E12: Gable (insulation at ceiling level)	Government-approved scheme	0.034 **(!)**	RCD

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	3.4 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	216.2%
Emitter type	Radiators
Flow temperature	55°C
System type	Heat Pump
Manufacturer	LG Electronics Ltd
Model	THERMA V
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: Cylinder	
Capacity	150 litres
Declared heat loss	1.32 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	81 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	0.0 W/(l/s)	**OK**
Minimum permitted heat recovery efficiency	*N/A*	
Heat recovery efficiency	N/A	**N/A**
Manufacturer/Model	Lo-Carbon NBR dMEV C 100, 498095	
Commissioning		

9 Local generation
N/A

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: Name:	Assessor ID: Date:
b. Client Declaration	
N/A	

Predicted Energy Assessment

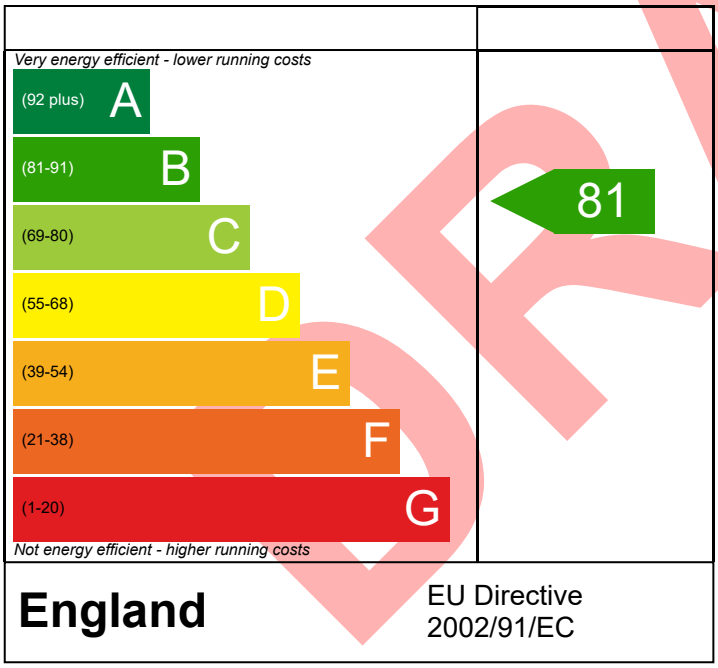
21, Mead Park, Barnstaple, Devon, EX31

Dwelling type:	Maisonette, Detached
Date of assessment:	17/04/2025
Produced by:	Stuart Milne
Total floor area:	59.76 m²
DRRN:	

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

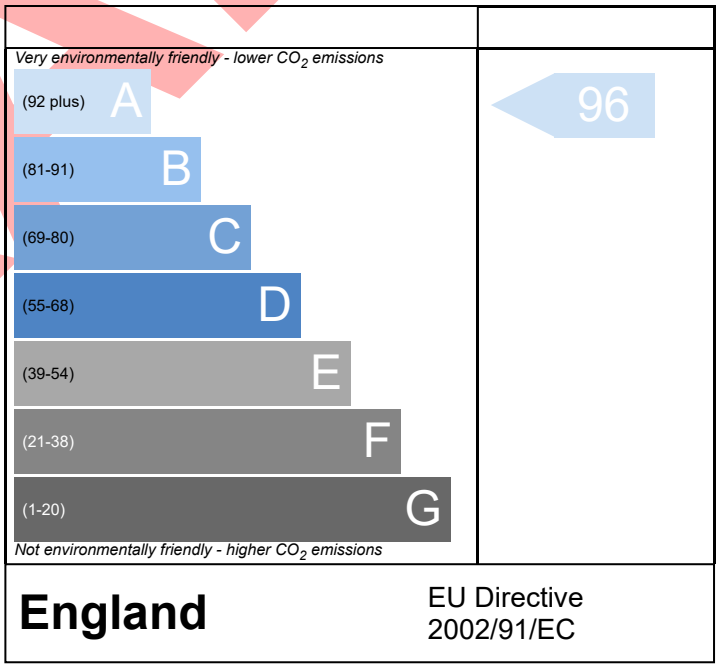
The energy performance has been assessed using the Government approved SAP 10 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

Environmental Impact (CO_2) Rating



The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO_2) emissions. The higher the rating the less impact it has on the environment.