

# Building Regulations England Part L (BREL) Compliance Report

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

Date: Wed 02 Aug 2023 10:17:26

Project Information			
Assessed By	Gareth Thomas	Building Type	House, End-terrace
OCDEA Registration	EES/023688	Assessment Date	2023-08-02

Dwelling Details			
Assessment Type	As designed	Total Floor Area	80 m <sup>2</sup>
Site Reference	026 - PRJ013365 - Homes 2	Plot Reference	026
Address	PO21		

Client Details	
Name	.
Company	.
Address	.

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	11.92 kgCO <sub>2</sub> /m <sup>2</sup>	
Dwelling carbon dioxide emission rate	11.68 kgCO <sub>2</sub> /m <sup>2</sup>	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	62.5 kWh <sub>PE</sub> /m <sup>2</sup>	
Dwelling primary energy	61.83 kWh <sub>PE</sub> /m <sup>2</sup>	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	36.4 kWh/m <sup>2</sup>	
Dwelling fabric energy efficiency	36.0 kWh/m <sup>2</sup>	OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m <sup>2</sup> K]	Dwelling average U-Value [W/m <sup>2</sup> K]	Element with highest individual U-Value	
External walls	0.26	0.24	Walls (2) (0.26)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Flr - Ground (0.11)	OK
Roofs	0.16	0.09	Roof (1) (0.09)	OK
Windows, doors, and roof windows	1.6	1.26	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 <sup>2</sup> ]	U-Value [W/m <sup>2</sup> K]
Exposed wall: Walls (1)	77.127	0.24
Exposed wall: Walls (2)	1.06	0.26
Party wall: Party Wall (1)	49.08	0 (!)
Ground floor: Flr - Ground, Flr - Ground	39.974	0.11
Exposed roof: Roof (1)	39.974	0.09 (!)

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m <sup>2</sup> ]	Orientation	Frame factor	U-Value [W/m <sup>2</sup> K]
Front, Solid Door	2.148	North East	N/A	1.2
Rear, Solid Door	2.148	South West	N/A	1.2
Front, Windows	3.527	North East	1.0	1.3
Rear, Windows	3.95	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	0.05	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E3: Sill	Calculated by person with suitable expertise	0.021 (!)	
External wall	E4: Jamb	Calculated by person with suitable expertise	0.016 (!)	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.022 (!)	
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.003 (!)	
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.071	
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.044	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.039 (!)	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.0355 (!)	
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.16	
Party wall	P2: Intermediate floor within a dwelling	SAP table default	0 (!)	
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.12	

3 Air permeability (better than typically expected values are flagged with a subsequent (!))			
Maximum permitted air permeability at 50Pa	8 m <sup>3</sup> /hm <sup>2</sup>		
Dwelling air permeability at 50Pa	4.01 m <sup>3</sup> /hm <sup>2</sup> , Design value		OK
Air permeability test certificate reference			

4 Space heating	
<b>Main heating system 1:</b> Boiler with radiators or underfloor heating - Mains gas	
Efficiency	89.0%
Emitter type	Radiators
Flow temperature	55°C
System type	Combi boiler
Manufacturer	Ideal Boilers
Model	LOGIC COMBI
Commissioning	
<b>Secondary heating system:</b> N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

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

6 Controls	
<b>Main heating 1</b> - type: Programmer, room thermostat, and TRVs	
Function	
Ecodesign class	
Manufacturer	
Model	
<b>Water heating</b> - 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		
<b>System type:</b> Decentralised mechanical extract		
Maximum permitted specific fan power	0.7 W/(l/s)	
Specific fan power	0.16 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		

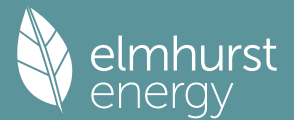
9 Local generation	
Technology type: <b>Photovoltaic system (1)</b>	
Peak power	1.8 kWp
Orientation	South West
Pitch	45°
Overshading	None or very little
Manufacturer	
MCS certificate	

10 Heat networks	
N/A	

11 Supporting documentary evidence	
N/A	

12 Declarations	
<b>a. Assessor Declaration</b>	
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:
Name:	Date:
<b>b. Client Declaration</b>	
N/A	

# Predicted Energy Assessment

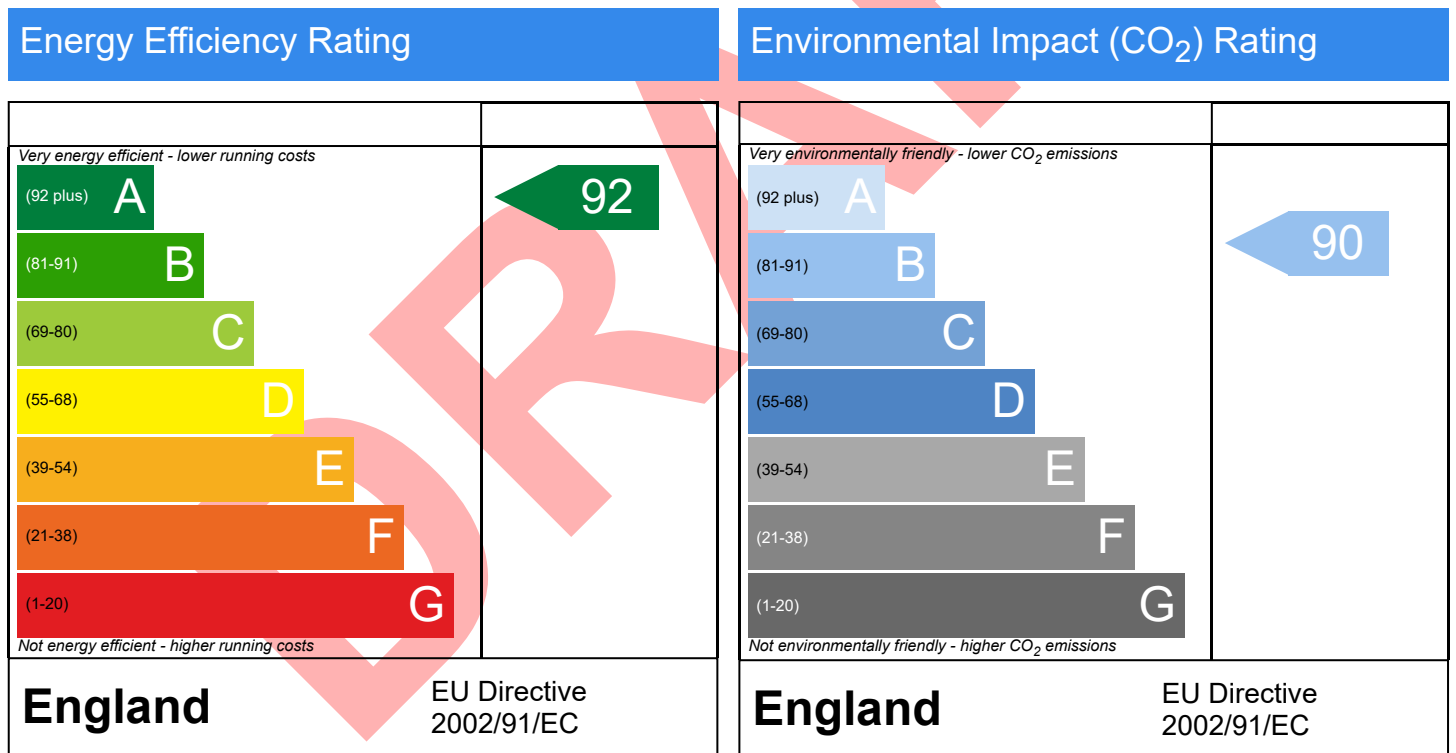


PO21

Dwelling type: House, End-Terrace  
 Date of assessment: 02/08/2023  
 Produced by: Gareth Thomas  
 Total floor area: 79.95 m<sup>2</sup>  
 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 (CO<sub>2</sub>) emissions.



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.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO<sub>2</sub>) emissions. The higher the rating the less impact it has on the environment.