

# Building Regulations England Part L (BREL) Compliance Report

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

Date: Wed 25 Oct 2023 10:45:53

Project Information			
Assessed By	Gareth Thomas	Building Type	House, Semi-detached
OCDEA Registration	EES/023688	Assessment Date	2023-10-25

Dwelling Details			
Assessment Type	As designed	Total Floor Area	93 m <sup>2</sup>
Site Reference	007 Clover	Plot Reference	007 Clover
Address	007 Clover 007 Clover, SO31 1ZJ		

Client Details	
Name	CALA
Company	CALA
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	Electricity	
Target carbon dioxide emission rate	10.3 kgCO <sub>2</sub> /m <sup>2</sup>	
Dwelling carbon dioxide emission rate	4.27 kgCO <sub>2</sub> /m <sup>2</sup>	OK
1b Target primary energy rate and dwelling primary energy		
Target primary energy	53.68 kWh <sub>PE</sub> /m <sup>2</sup>	
Dwelling primary energy	45.07 kWh <sub>PE</sub> /m <sup>2</sup>	OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency		
Target fabric energy efficiency	34.1 kWh/m <sup>2</sup>	
Dwelling fabric energy efficiency	32.2 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	0.21	Walls (1) (0.22)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.16	Flr - Ground (0.16)	OK
Roofs	0.16	0.09	Roof (1) (0.09)	OK
Windows, doors, and roof windows	1.6	1.31	Rear (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 <sup>2</sup> ]	U-Value [W/m <sup>2</sup> K]
Exposed wall: Walls (1)	5.036	0.22
Exposed wall: Walls (2)	79.171	0.21
Party wall: Party Wall (1)	43.32	0 (!)
Ground floor: Flr - Ground, Flr - Ground	46.351	0.16
Exposed roof: Roof (1)	46.351	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	2.146	North	N/A	1.2
Front, Windows	5.77	North	1.0	1.3
Rear, Windows	2.879	South	1.0	1.3
Rear, Windows Type 2	3.328	South	1.0	1.4

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	0.024 (!)	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E3: Sill	Calculated by person with suitable expertise	0.008 (!)	
External wall	E4: Jamb	Calculated by person with suitable expertise	0.029 (!)	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.062	
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0 (!)	
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.021 (!)	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.013 (!)	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.011 (!)	
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.086	
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	0.038 (!)	

### 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 m <sup>3</sup> /hm <sup>2</sup> , Design value	OK
Air permeability test certificate reference		

### 4 Space heating

#### Main heating system 1: Heat pump with radiators or underfloor heating - Electricity

Efficiency	280.5%
Emitter type	Radiators
Flow temperature	45°C
System type	Heat Pump
Manufacturer	Daikin Europe NV
Model	EDLA04EV3
Commissioning	

#### Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

### 5 Hot water

#### Cylinder/store - type: Cylinder

Capacity	180 litres
Declared heat loss	1.39 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: Programmer, room thermostat and TRVs

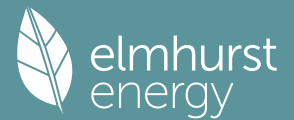
Function	
Ecodesign class	
Manufacturer	
Model	

#### 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		
<b>System type:</b> Decentralised mechanical extract		
Maximum permitted specific fan power	0.7 W/(l/s)	
Specific fan power	0.13 W/(l/s)	OK
Minimum permitted heat recovery efficiency	N/A	
Heat recovery efficiency	N/A	N/A
Manufacturer/Model	Unity CV2.1	
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:	Assessor ID:	
Name:	Date:	
b. Client Declaration		
N/A		

# Predicted Energy Assessment

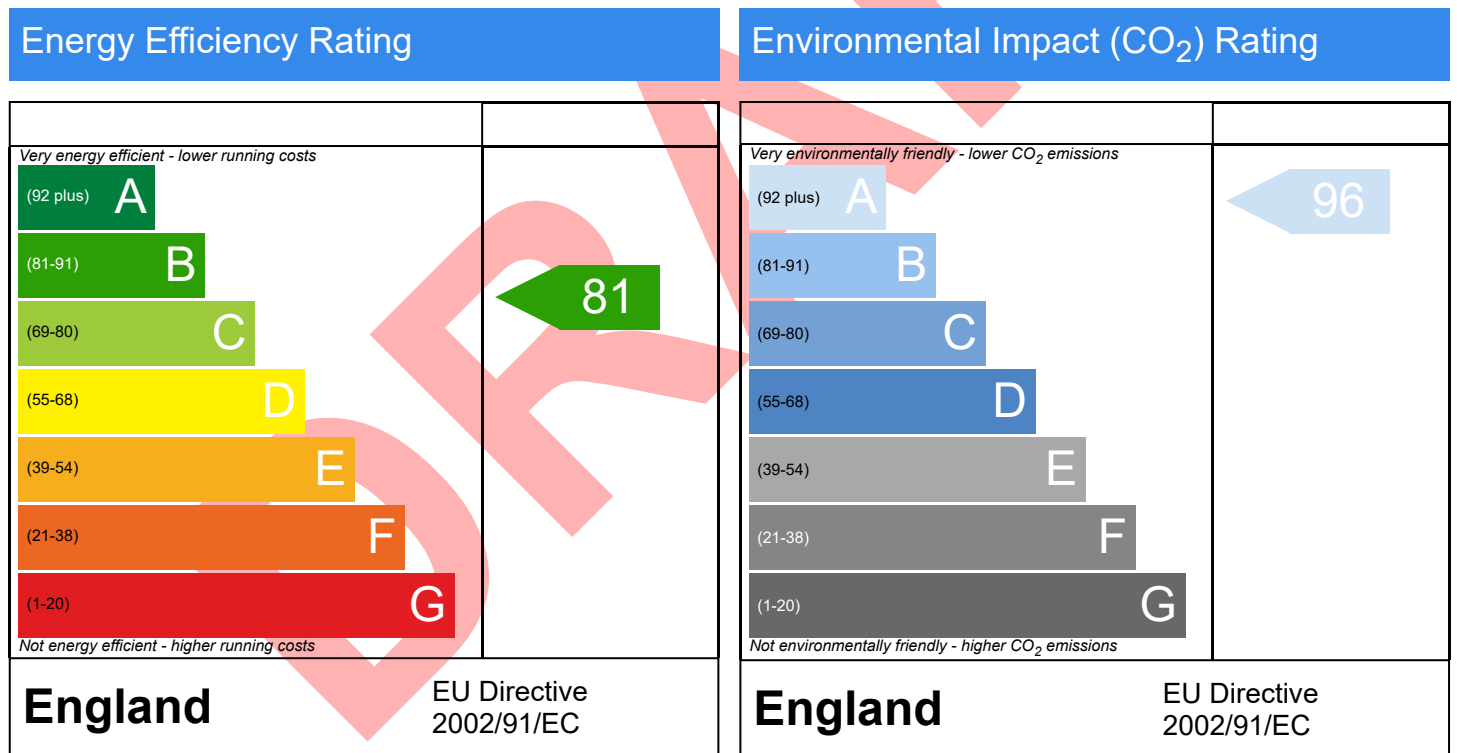


007 Clover, 007 Clover, SO31 1ZJ

Dwelling type: House, Semi-Detached  
 Date of assessment: 25/10/2023  
 Produced by: Gareth Thomas  
 Total floor area: 92.7 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.