

# Building Regulations England Part L (BREL) Compliance Report

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

Date: Mon 24 Jun 2024 12:19:42

Project Information			
Assessed By	Mark Purnell	Building Type	House, Semi-detached
OCDEA Registration	EES/004348	Assessment Date	2024-06-24

Dwelling Details			
Assessment Type	As designed	Total Floor Area	69 m <sup>2</sup>
Site Reference	MP/TWNW/DWW/TNA20M/7	Plot Reference	1
Address	Plot 7 David Whitby Way, Crewe		

Client Details	
Name	TWNW
Company	Taylor Wimpey
Address	Washington House, Birchwood Park, Warrington, WA3 7PB

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	11.37 kgCO <sub>2</sub> /m <sup>2</sup>		
Dwelling carbon dioxide emission rate	9.97 kgCO <sub>2</sub> /m <sup>2</sup>		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	59.44 kWh <sub>PE</sub> /m <sup>2</sup>		
Dwelling primary energy	53.99 kWh <sub>PE</sub> /m <sup>2</sup>		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	30.8 kWh/m <sup>2</sup>		
Dwelling fabric energy efficiency	28.9 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	0.2	Walls (1) (0.2)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.14	Floor (0.14)	OK
Roofs	0.16	0.11	Roof (1) (0.11)	OK
Windows, doors, and roof windows	1.6	1	Door (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 <sup>2</sup> ]	U-Value [W/m <sup>2</sup> K]
Exposed wall: Walls (1)	30.45	0.2
Party wall: Party Wall (1)	79.31	0 (!)
Ground floor: Floor , Floor	34.4	0.14
Exposed roof: Roof (1)	34.4	0.11

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]
Windows, Window - Front Green	3.5	West	1.0	0.98 (!)
Door, Door	2.04	West	N/A	1.2
French Doors, French Doors	4.41	East	1.0	1 (!)
Opening 4, Windows	1.62	East	1.0	0.78 (!)

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	0.108	
External wall	E3: Sill	Calculated by person with suitable expertise	0.058	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.062	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.074	
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.048	tw
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.048	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.042	tw
Party wall	P1: Ground floor	Calculated by person with suitable expertise	0.054	TW
Party wall	P4: Roof (insulation at ceiling level)	Calculated by person with suitable expertise	0.019 (!)	TW

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

### 4 Space heating

#### Main heating system 1: Boiler with radiators or underfloor heating - Mains gas

Efficiency	93.6%
Emitter type	Radiators
Flow temperature	55°C
System type	Combi boiler
Manufacturer	Ideal Boilers
Model	LOGIC COMBI
Commissioning	

#### Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

### 5 Hot water

#### Cylinder/store - type: N/A

Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	

#### Waste water heat recovery system 1 - type: Instantaneous

Efficiency	70.7%
Manufacturer	Recoup Energy Solutions Ltd
Model	Pipe HEX

### 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: N/A

Manufacturer	
Model	

### 7 Lighting

Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	85.71428571428571 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	0.12 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		
Technology type: <b>Photovoltaic system (1)</b>		
Peak power	0.81 kWp	
Orientation	East	
Pitch	45°	
Overshading	None or very little	
Manufacturer		
MCS certificate		
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		