

Building Regulations England Part L (BREL) Compliance Report

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

Date: Mon 29 Apr 2024 15:40:42

Project Information			
Assessed By	Mohamed Egal	Building Type	Flat, End-terrace
OCDEA Registration	EES/027352	Assessment Date	2024-04-29

Dwelling Details			
Assessment Type	As designed	Total Floor Area	39 m ²
Site Reference	Plot C	Plot Reference	As Designed (Gas Boiler + WWH)
Address	40 Bulmershe Road, RG1 5RJ		

Client Details	
Name	Chris Keen
Company	The Keen Partnership
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	17.15 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	16.22 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	91.31 kWh _{PE} /m ²		
Dwelling primary energy	91.35 kWh _{PE} /m ²		FAIL
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	42.8 kWh/m ²		
Dwelling fabric energy efficiency	44.4 kWh/m ²		FAIL

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² 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	N/A	N/A	N/A
Roofs	0.16	0.11	Roof (1) (0.11)	OK
Windows, doors, and roof windows	1.6	1.16	Opening (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 ² K]	
Sheltered wall: Walls (1)	41.87	0.2	
Exposed wall: Walls (2)	8.4	0.19	
Party wall: Party Wall (1)	8.97	0 (!)	
Exposed roof: Roof (1)	38.52	0.11	

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
Opening, Door	1.89	North East	N/A	1 (!)
Opening, Windows	3.24	North East	1.0	1.2
Opening, Windows	4.07	South West	1.0	1.2

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	0.014 (!)	
External wall	E3: Sill	Calculated by person with suitable expertise	0.021 (!)	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.016 (!)	
External wall	E7: Party floor between dwellings (in blocks of flats)	Calculated by person with suitable expertise	0.038 (!)	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.054	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.041	
External wall	E25: Staggered party wall between dwellings	SAP table default	0.24	
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	SAP table default	0 (!)	
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.068	
External wall	E12: Gable (insulation at ceiling level)	Calculated by person with suitable expertise	0.175	
Party wall	P4: Roof (insulation at ceiling level)	SAP table default	0.48	

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	5 m ³ /hm ² , Design value	OK
Air permeability test certificate reference		

4 Space heating

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

Efficiency	89.0%
Emitter type	Radiators
Flow temperature	
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	67.2%
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: N/A

Manufacturer	
Model	

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	80 lm/W	OK
External lights control	N/A	
8 Mechanical ventilation		
System type: N/A		
Maximum permitted specific fan power	N/A	
Specific fan power	N/A	N/A
Minimum permitted heat recovery efficiency	N/A	
Heat recovery efficiency	N/A	N/A
Manufacturer/Model		
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		