

Building Regulations England Part L (BREL) Compliance Report

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

Date: Fri 15 May 2026 14:34:47

Project Information			
Assessed By	Joshua Cunningham	Building Type	Flat, Semi-detached
OCDEA Registration	EES/024531	Assessment Date	2026-05-15

Dwelling Details			
Assessment Type	As designed	Total Floor Area	53 m ²
Site Reference	Flat 03	Plot Reference	Design V1
Address	37 Flat 03 Albion Street, Southwick, BN42 4DN		

Client Details	
Name	PR HOMES DIRECT LIMITED
Company	PR HOMES DIRECT LIMITED
Address	168 Church Road, Hove, East Sussex, BN3 2DL

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	14.25 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	4.32 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	76.71 kWh _{PE} /m ²		
Dwelling primary energy	46.0 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	31.0 kWh/m ²		
Dwelling fabric energy efficiency	25.2 kWh/m ²		OK

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	0.19	Walls (1) (0.19)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.12	Heatloss Floor 1 - Solid (0.12)	OK
Roofs	0.16	N/A	N/A	N/A
Windows, doors, and roof windows	1.6	1.2	LSW (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]	
Exposed wall: Walls (1)	36.15	0.19	
Party wall: Party Wall (1)	36.51	0 (!)	
Ground floor: Heatloss Floor 1 - Solid, Heatloss Floor 1 - Solid	53.3	0.12	

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]
LSW, Opening Type 1 - Window	1.22	North West	0.7	1.2
RSW, Opening Type 1 - Window	7.1	South 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)	Not government-approved scheme	0.023 (!)	RCDs
External wall	E3: Sill	Not government-approved scheme	0.024 (!)	RCDs
External wall	E4: Jamb	Not government-approved scheme	0.019 (!)	RCDs

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E5: Ground floor (normal)	Not government-approved scheme	0.041	RCDs
Party wall	P1: Ground floor	Not government-approved scheme	0.036 (!)	RCDs
External wall	E16: Corner (normal)	Not government-approved scheme	0.037 (!)	RCDs
External wall	E7: Party floor between dwellings (in blocks of flats)	Not government-approved scheme	0.036 (!)	RCDs
Party wall	P3: Intermediate floor between dwellings (in blocks of flats)	Not government-approved scheme	0.036 (!)	RCDs
External wall	E25: Staggered party wall between dwellings	Not government-approved scheme	0.03 (!)	RCDs

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 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	239.0%
Emitter type	Radiators
Flow temperature	45°C
System type	Heat Pump
Manufacturer	Mitsubishi Electric Europe B.V.
Model	Ecodan 5.0 kW
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	1.6 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	95 lm/W	OK
External lights control	N/A	

8 Mechanical ventilation		
System type: Balanced whole-house mechanical ventilation with heat recovery		
Maximum permitted specific fan power	1.5 W/(l/s)	
Specific fan power	0.9 W/(l/s)	OK
Minimum permitted heat recovery efficiency	73%	
Heat recovery efficiency	88%	OK
Manufacturer/Model	Unknown - Planning Stage	
Commissioning		
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	0.501 kWp	
Orientation	Horizontal	
Pitch	Horizontal	
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		

Summary for Input Data

Plot Reference	Flat 03	Issued on Date	15/05/2026
Assessment Reference	Design V1	Plot Type Ref	1 Bed
Plot Address	Flat 03, 37, Albion Street, Southwick, Hove, BN42 4DN	SAP Version	10.2

SAP Rating	85 B	DER	4.32	TER	14.25
Environmental	97 A	% DER < TER			69.68
CO ₂ Emissions (t/year)	0.22	DFEE	25.23	TFEE	31.01
Compliance Check	See BREL	% DFEE < TFEE			18.64
% DPER < TPER	40.04	DPER	46.00	TPER	76.71

Assessor Details	Mr. Joshua Cunningham	Assessor ID	Y502-0001
Client	QU-0145, PR HOMES DIRECT LIMITED		

SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	Southwest	
Property Tenture	ND	
Transaction Type	6	
Terrain Type	Urban	
1.0 Property Type	Flat, Semi-Detached	
Position of Flat	Ground-floor flat	
Which Floor	0	
2.0 Number of Storeys	1	
3.0 Date Built	2026	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Enter TMP value	
Thermal Mass	350.00	kJ/m²K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
	Ground floor:	17.10 m	53.30 m²	2.60 m

8.0 Living Area	25.88	m²
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Description	Type	Construction	U-Value (W/m²K)	Kappa (kJ/m²K)	Gross Area(m²)	Nett Area (m²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1 - Masonry	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.19		44.47	36.15	0.00	None	8.32	Enter Gross Area

Description	Type	Construction	U-Value (W/m²K)	Kappa (kJ/m²K)	Area (m²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on both sides, dense cellular blocks, cavity	0.00		36.51	0.00	None

Description	Construction	Kappa (kJ/m²K)	Area (m²)
Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	53.30

Description	Type	Storey Index	Construction	U-Value (W/m²K)	Shelter Code	Shelter Factor	Kappa (kJ/m²K)	Area (m²)
Heatloss Floor 1 - Solid	Ground Floor - Solid	Lowest occupied	Slab on ground, screed over insulation	0.12	None	0.00	110.00	53.30

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Opening Type 1 - Window	Manufacturer	Window	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Summary for Input Data

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
LSW	Opening Type 1 - Window	External Wall 1 - Masonry	North West	1.22	
RSW	Opening Type 1 - Window	External Wall 1 - Masonry	South East	7.10	

14.0 Conservatory	None	
15.0 Draught Proofing	100	%
16.0 Draught Lobby	No	
17.0 Thermal Bridging	Calculate Bridges	
17.1 List of Bridges		

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	4.05	0.02	0.02 RCDs	No
E3 Sill	Non Gov Approved Schemes	4.05	0.02	0.02 RCDs	No
E4 Jamb	Non Gov Approved Schemes	11.70	0.02	0.02 RCDs	No
E5 Ground floor (normal)	Non Gov Approved Schemes	17.10	0.04	0.04 RCDs	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	14.04	0.04	0.04 RCDs	No
E16 Corner (normal)	Non Gov Approved Schemes	5.20	0.04	0.04 RCDs	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	17.10	0.04	0.04 RCDs	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	14.04	0.04	0.04 RCDs	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.20	0.03	0.03 RCDs	No

Y-value	0.03	W/m ² K
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19.0 Mechanical Ventilation	
Mechanical Ventilation	
Mechanical Ventilation System Present	Yes
Mechanical Ventilation data Type	Data Sheet
Type	Balanced mechanical ventilation with heat recovery
Manufacturer SFP	0.90
Duct Type	Rigid
MVHR Efficiency	88.00
Wet Rooms	1
Brand, Model	Unknown - Planning Stage
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)
Duct Installation Specification	Level 1

20.0 Fans, Open Fireplaces, Flues	
Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0
Number of intermittent extract fans	0
Number of passive vents	0
Number of flueless gas fires	0

21.0 Fixed Cooling System	No
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22.0 Pressure Testing	Yes	
Designed AP ₅₀	3.00	m ³ /(h.m ²) @ 50 Pa
Test Method	Blower Door	

22.0 Lighting	No										
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting</td> <td>95.00</td> <td>5.00</td> <td>475.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting	95.00	5.00	475.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting	95.00	5.00	475.00	10							

24.0 Main Heating 1	Database	
Percentage of Heat	100.00	%

Summary for Input Data

Database Ref. No.	104569					
Fuel Type	Electricity					
In Winter	239.02					
In Summer	171.44					
Model Name	Ecodan 5.0 kW					
Manufacturer	Mitsubishi Electric Europe B.V.					
System Type	Heat Pump					
Controls SAP Code	2207					
Controls description	Time and temperature zone control by arrangement					
Is MHS Pumped	Pump in heated space					
Heating Pump Age	2013 or later					
Heat Emitter	Radiators					
Flow Temperature	Enter value					
Flow Temperature Value	45.00					

25.0 Main Heating 2	None					
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26.0 Heat Networks	None					
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27.0 Secondary Heating	None					
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28.0 Water Heating						
Water Heating	Main Heating 1					
SAP Code	901					
Flue Gas Heat Recovery System	No					
Waste Water Heat Recovery Instantaneous System 1	No					
Waste Water Heat Recovery Instantaneous System 2	No					
Waste Water Heat Recovery Storage System	No					
Solar Panel	No					
Water use <= 125 litres/person/day	Yes					
Cold Water Source	From mains					
Bath Count	1					
Immersion Only Heating Hot Water	No					

28.1 Showers						
Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To	
Shower	Combi boiler or unvented hot water system	9.00		No		

28.3 Waste Water Heat Recovery System						
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29.0 Hot Water Cylinder	Hot Water Cylinder					
Cylinder Stat	Yes					
Cylinder In Heated Space	Yes					
Independent Time Control	Yes					
Insulation Type	Measured Loss					
Cylinder Volume	150.00				L	
Loss	1.60				kWh/day	
Pipes insulation	Fully insulated primary pipework					

31.0 Thermal Store	None					
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32.0 Photovoltaic Unit	Multiple Dwellings – Connected					
Export Capable Meter?	No					
Connected To Dwelling	Yes					
Diverter	No					

Summary for Input Data



Battery Capacity [kWh]

0.00

PV Cells kWp

Orientation

Elevation

Overshading

FGHRS

MCS Certificate

**Overshading
Factor**

**MCS
Certificate
Reference**

**Panel
Manufacturer**

0.50

Horizontal

Horizontal

None Or Little

No

1.00

34.0 Small-scale Hydro

None

Jan

Feb

Mar

Apr

May

Jun

Jul

Aug

Sep

Oct

Nov

Dec

Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Thermal Bridging

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CO ₂ Emissions (t/year)	0.22	DFEE	25.23	TFEE	31.01
Compliance Check	See BREL	% DFEE < TFEE			18.64
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Assessor Details	Mr. Joshua Cunningham	Assessor ID	Y502-0001
Client	QU-0145, PR HOMES DIRECT LIMITED		

	Junction details	Source Type	Psi (W/mK)	Length (m)	Result	Reference
External wall	E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	0.023	4.05	0.09	RCDs
External wall	E3 Sill	Non Gov Approved Schemes	0.024	4.05	0.10	RCDs
External wall	E4 Jamb	Non Gov Approved Schemes	0.019	11.70	0.22	RCDs
External wall	E5 Ground floor (normal)	Non Gov Approved Schemes	0.041	17.10	0.70	RCDs
Party wall	P1 Party wall - Ground floor	Non Gov Approved Schemes	0.036	14.04	0.51	RCDs
External wall	E16 Corner (normal)	Non Gov Approved Schemes	0.037	5.20	0.19	RCDs
External wall	E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	0.036	17.10	0.62	RCDs
Party wall	P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	0.036	14.04	0.51	RCDs
External wall	E25 Staggered party wall between dwellings	Non Gov Approved Schemes	0.030	5.20	0.16	RCDs

Total: 92.48 W/mK:
Y-Value: 0.03 W/m²K: