

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 14:34:49

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	64 m ²
Site Reference	Flat 16	Plot Reference	Design V1
Address	37 Flat 16 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	12.16 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.93 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	65.28 kWh _{PE} /m ²		
Dwelling primary energy	41.83 kWh _{PE} /m ²		OK
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	25.6 kWh/m ²		
Dwelling fabric energy efficiency	23.4 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	N/A	N/A	N/A
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)	49.65	0.19	
Party wall: Party Wall (1)	54.66	0 (!)	

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	8.3	South East	0.7	1.2
RSW, Opening Type 1 - Window	1.76	North West	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
External wall	E16: Corner (normal)	Not government-approved scheme	0.037 (!)	RCDs

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
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	E18: Party wall between dwellings	Not government-approved scheme	0.041	RCDs
External wall	E17: Corner (inverted - internal area greater than external area)	Not government-approved scheme	-0.079	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	243.9%
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	0.598 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: Name:	Assessor ID: Date:
b. Client Declaration	
N/A	

Summary for Input Data



Plot Reference	Flat 16	Issued on Date	15/05/2026
Assessment Reference	Design V1	Plot Type Ref	2 Bed
Plot Address	Flat 16, 37, Albion Street, Southwick, Hove, BN42 4DN	SAP Version	10.2

SAP Rating	85 B	DER	3.93	TER	12.16
Environmental	97 A	% DER < TER			67.68
CO ₂ Emissions (t/year)	0.23	DFEE	23.40	TFEE	25.64
Compliance Check	See BREL	% DFEE < TFEE			8.74
% DPER < TPER	35.92	DPER	41.83	TPER	65.28

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	Northeast	
Property Tenture	ND	
Transaction Type	6	
Terrain Type	Urban	
1.0 Property Type	Flat, Semi-Detached	
Position of Flat	Mid-floor flat	
Which Floor	2	
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	Ground floor:	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
		19.90 m	63.68 m ²	3.00 m

8.0 Living Area	22.62	m ²
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9.0 External Walls	Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	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		59.71	49.65	0.00	None	10.06	Enter Gross Area

9.1 Party Walls	Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
	Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on both sides, dense cellular blocks, cavity	0.00		54.66	0.00	None

10.1 Party Ceilings	Description	Construction	Kappa (kJ/m ² K)	Area (m ²)
	Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	63.68

11.1 Party Floors	Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
	Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	40.00	63.68

12.0 Opening Types	Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
	Opening Type 1 - Window	Manufacturer	Window	Double Low-E Soft 0.1			0.63		0.70	1.20

Summary for Input Data

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
LSW	Opening Type 1 - Window	External Wall 1 - Masonry	South East	8.30	
RSW	Opening Type 1 - Window	External Wall 1 - Masonry	North West	1.76	

14.0 Conservatory

15.0 Draught Proofing

 %

16.0 Draught Lobby

17.0 Thermal Bridging

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	4.95	0.02	0.02 RCDs	No
E3 Sill	Non Gov Approved Schemes	4.95	0.02	0.02 RCDs	No
E4 Jamb	Non Gov Approved Schemes	11.10	0.02	0.02 RCDs	No
E16 Corner (normal)	Non Gov Approved Schemes	9.00	0.04	0.04 RCDs	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	39.80	0.04	0.04 RCDs	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	36.44	0.04	0.04 RCDs	No
E18 Party wall between dwellings	Non Gov Approved Schemes	3.00	0.04	0.04 RCDs	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	3.00	-0.08	-0.08 RCDs	No

Y-value W/m²K

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

22.0 Pressure Testing

Designed AP₅₀ m³/(h.m²) @ 50 Pa

Test Method

22.0 Lighting

No Fixed Lighting

Name	Efficacy	Power	Capacity	Count
Lighting	95.00	5.00	475.00	10

24.0 Main Heating 1

Summary for Input Data

Percentage of Heat	100.00	%
Database Ref. No.	104569	
Fuel Type	Electricity	
In Winter	243.93	
In Summer	171.42	
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		
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	
Export Capable Meter?	No
Connected To Dwelling	Yes

Summary for Input Data



Diverter

Battery Capacity [kWh]

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.60	Horizontal	Horizontal	None Or Little		No	1.00		

34.0 Small-scale Hydro

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Thermal Bridging

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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	4.95	0.11	RCDs
External wall	E3 Sill	Non Gov Approved Schemes	0.024	4.95	0.12	RCDs
External wall	E4 Jamb	Non Gov Approved Schemes	0.019	11.10	0.21	RCDs
External wall	E16 Corner (normal)	Non Gov Approved Schemes	0.037	9.00	0.33	RCDs
External wall	E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	0.036	39.80	1.43	RCDs
Party wall	P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	0.036	36.44	1.31	RCDs
External wall	E18 Party wall between dwellings	Non Gov Approved Schemes	0.041	3.00	0.12	RCDs
External wall	E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	-0.079	3.00	-0.24	RCDs

Total: 112.24 W/mK:
Y-Value: 0.06 W/m²K: