

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)



Property and Energy
Services Ltd.

Property Reference	3567-8	Issued on Date	27/04/2020
Assessment Reference	3567-8	Prop Type Ref	
Property	Plot 8, 209-219 Henley Road, Reading, RG4 6LJ		
SAP Rating	87 B	DER	12.93
Environmental	88 B	TER	13.10
CO ₂ Emissions (t/year)	1.48	% DER<TER	1.27
General Requirements Compliance	Pass	DFEE	33.05
		TFEE	39.75
		% DFEE<TFEE	16.84
Assessor Details	Mr. Ian Lloyd, Property and Energy Services Limited, Tel: 01367240212, ianl@propertyandenergy.co.uk		Assessor ID
			H044-0001
Client			

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

Orientation	North
Property Tenure	Unknown
Transaction Type	New dwelling
Terrain Type	Suburban
1.0 Property Type	House, Mid-Terrace
2.0 Number of Storeys	3
3.0 Date Built	2020
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown

6.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
	Ground Floor:	10.80 m	37.75 m ²	2.40 m
	1st Storey:	10.80 m	51.71 m ²	2.65 m
	2nd Storey:	11.73 m	48.77 m ²	2.35 m

7.0 Living Area	22.50	m ²
8.0 Thermal Mass Parameter	Simple calculation - Medium	
Thermal Mass	250.00	kJ/m ² K

9.0 External Walls					
Description	Type	Construction	U-Value (W/m ² K)	Gross Area (m ²)	Nett Area (m ²)
Basement type wall	Solid Wall	Solid wall : dense plaster, 200 mm dense block, insulated externally	0.18	15.12	15.12
Brick cavity	Cavity Wall	Cavity wall : dense plaster, AAC block, filled cavity, any outside structure	0.17	52.64	34.01
Rendered wall	Cavity Wall	Cavity wall : dense plaster, AAC block, filled cavity, any outside structure	0.16	15.00	12.47
Dormer wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	10.19	6.95

9.1 Party Walls				
Description	Type	Construction	U-Value (W/m ² K)	Area (m ²)
Party Wall	Filled Cavity with Edge Sealing	Dense plaster both sides, dense blocks, cavity or cavity fill	0.00	61.76

10.0 External Roofs

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)



Property and Energy
Services Ltd.

Description	Type	Construction	U-Value (W/m²K)	Gross Area (m²)	Nett Area (m²)
Ceiling	External Plane Roof	Other	0.11	32.36	32.36
Dormer roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.16	5.58	5.58
Skeiling	External Slope Roof	Plasterboard, insulated slope	0.15	10.00	10.00

11.0 Heat Loss Floors

Description	Type	Construction	U-Value (W/m²K)	Area (m²)
Ground floor	Ground Floor - Solid	Slab on ground, screed over insulation	0.11	52.90

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Argon Filled	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Door -1	Manufacture	Solid Door							1.00
W-1.4	Manufacture	Window	Double Low-E Soft 0.05			0.63		0.70	1.40

13.0 Openings

Name	Opening Type	Location	Orientation	Curtain Type	Overhang Ratio	Wide Overhang	Width (m)	Height (m)	Count	Area (m²)	Curtain Closed
Opening 1	Solid Door	[3] Rendered wall	North							1.96	
Opening 2	Window	[2] Brick cavity	North	Dark-coloured curtain or roller blind	0.00					4.56	100
Opening 3	Window	[3] Rendered wall	North	Dark-coloured curtain or roller blind	0.00					0.57	100
Opening 7	Window	[2] Brick cavity	South	Dark-coloured curtain or roller blind	0.00					9.03	100
Opening 8	Window	[2] Brick cavity	South	Dark-coloured curtain or roller blind	0.00					5.04	100
Opening 9	Window	[4] Dormer wall	South	Dark-coloured curtain or roller blind	0.00					3.24	100

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		

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)



Property and Energy
Services Ltd.

Source Type	Bridge Type	Length	Psi	Imported
Independently assessed	E1 Steel lintel with perforated steel base plate	14.78	0.259	Yes
Independently assessed	E3 Sill	13.85	0.014	Yes
Independently assessed	E4 Jamb	33.00	0.014	Yes
Independently assessed	E5 Ground floor (normal)	10.80	0.037	No
Table K1 - Default	E22 Basement floor	6.30	0.070	No
Independently assessed	E6 Intermediate floor within a dwelling	22.53	0.000	No
Independently assessed	E10 Eaves (insulation at ceiling level)	3.38	0.034	No
Independently assessed	E11 Eaves (insulation at rafter level)	1.10	0.032	No
Independently assessed	E12 Gable (insulation at ceiling level)	6.86	0.040	No
Independently assessed	E13 Gable (insulation at rafter level)	3.40	0.057	No
Independently assessed	E18 Party wall between dwellings	11.30	0.021	No
Independently assessed	P1 Party wall - Ground floor	14.34	0.053	No
Table K1 - Default	P2 Party wall - Intermediate floor within a dwelling	28.24	0.000	No
Independently assessed	P4 Party wall - Roof (insulation at ceiling level)	13.72	0.072	No
Table K1 - Default	P5 Party wall - Roof (insulation at rafter level)	6.80	0.080	No
Table K1 - Default	R6 Flat ceiling	1.80	0.060	No
Table K1 - Default	R7 Flat ceiling (inverted)	3.38	0.040	No
Table K1 - Default	R8 Roof to wall (rafter)	1.80	0.060	No
Table K1 - Default	R9 Roof to wall (flat ceiling)	3.38	0.040	No

Y-value	0.046	W/m ² K
---------	-------	--------------------

18.0 Pressure Testing	Yes	
Designed AP ₅₀	5.00	m ³ /(h.m ²) @ 50 Pa
Property Tested ?		
As Built AP ₅₀		m ³ /(h.m ²) @ 50 Pa

19.0 Mechanical Ventilation	
Summer Overheating	
Windows open in hot weather	Windows half open
Cross ventilation possible	Yes
Night Ventilation	No
Air change rate	4.00
Mechanical Ventilation	
Mechanical Ventilation System Present	No

20.0 Fans, Open Fireplaces, Flues				
	MHS	SHS	Other	Total
Number of Chimneys	0		0	0
Number of open flues	0		0	0
Number of intermittent fans				4
Number of passive vents				0
Number of flueless gas fires				0

21.0 Fixed Cooling System	No
----------------------------------	----

22.0 Lighting	
Internal	
Total number of light fittings	45
Total number of L.E.L. fittings	45
Percentage of L.E.L. fittings	100.00
	%
External	
External lights fitted	Yes
Light and motion sensor	Yes

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)



Property and Energy
Services Ltd.

23.0 Electricity Tariff	Standard	
24.0 Main Heating 1	Database	
Percentage of Heat	100	%
Database Ref. No.	18706	
Fuel Type	Mains gas	
Main Heating	BGB	
SAP Code	102	
In Winter	90.6	
In Summer	79.9	
Controls	CBI Time and temperature zone control	
PCDF Controls	0	
Delayed Start Stat	Yes	
Sap Code	2110	
Flue Type	Balanced	
Fan Assisted Flue	Yes	
Is MHS Pumped	Pump in heated space	
Heat Emitter	Radiators and Underfloor	
Underfloor Heating	Yes - Pipes in thin screed	
Flow Temperature	Normal (> 45°C)	
25.0 Main Heating 2	None	
Community Heating	None	
28.0 Water Heating	HWP From main heating 1	
Water Heating	Main Heating 1	
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	
SAP Code	901	
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	210.00	L
Loss	1.60	kWh/day
Pipes insulation	Fully insulated primary pipework	
31.0 Thermal Store	None	

Recommendations

Lower cost measures

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)



Property and Energy
Services Ltd.

None

Further measures to achieve even higher standards

	Typical Cost	Typical savings per year	Ratings after improvement	
			SAP rating	Environmental Impact
Solar water heating	£4,000 - £6,000	£45	B 88	
	Typical Cost	Typical savings per year	Ratings after improvement	
			SAP rating	Environmental Impact
Solar photovoltaic panels, 2.5 kWp	£3,500 - £5,500	£340	A 96	