

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)



Property and Energy
Services Ltd.

Property Reference	3260-2	Issued on Date	08/05/2019
Assessment Reference	3260-2	Prop Type Ref	
Property	2, Aldworth Rise, Reading, RG1 7NA		
SAP Rating	84 B	DER	16.71
Environmental	87 B	TER	16.99
CO ₂ Emissions (t/year)	1.09	% DER<TER	1.63
General Requirements Compliance	Pass	DFEE	43.30
		TFEE	48.19
		% DFEE<TFEE	10.15
Assessor Details	Mr. Ian Lloyd, Property and Energy Services Limited, Tel: 01367240212, ianl@propertyandenergy.co.uk		Assessor ID
			H044-0001
Client	Keen Partnership, Keen		

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Orientation	East
Property Tenure	Owner-occupied
Transaction Type	New dwelling
Terrain Type	Urban
1.0 Property Type	House, Mid-Terrace
2.0 Number of Storeys	2
3.0 Date Built	2016
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:	9.00 m	45.24 m ²	2.42 m
	1st Storey:	9.00 m	35.96 m ²	2.55 m

7.0 Living Area	16.76	m ²
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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)
Cavity wall	Cavity Wall	Cavity wall : dense plaster, AAC block, filled cavity, any outside structure	0.22	44.73	25.38

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	99.89

10.0 External Roofs					
Description	Type	Construction	U-Value (W/m ² K)	Gross Area (m ²)	Nett Area (m ²)
Ceiling	External Plane Roof	Other	0.16	16.81	16.81
Skeiling	External Slope Roof	Plasterboard, insulated slope	0.16	31.59	31.59

11.0 Heat Loss Floors				
Description	Type	Construction	U-Value (W/m ² K)	Area (m ²)
Ground floor	Ground Floor - Solid	Suspended concrete floor, carpeted	0.12	45.24

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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	Manufacturer	Solid Door							1.00
W-1.4	Manufacturer	Window	Double Low-E Soft 0.05			0.63		0.70	1.40
Velux	Manufacturer	Roof Window	Double Low-E Soft 0.05			0.63		0.70	1.50

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	Window	[1] Cavity wall	West	Dark-coloured curtain or roller blind	0.00					6.11	100
Opening 4	Window	[1] Cavity wall	East	Dark-coloured curtain or roller blind	0.00					5.14	100
Opening 5	Window	[1] Cavity wall	West	Dark-coloured curtain or roller blind	0.00					2.28	100
Opening 7	Window	[1] Cavity wall	East	Dark-coloured curtain or roller blind	0.00					3.27	100
Opening 6	Solid Door	[1] Cavity wall	East							2.55	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

Source Type	Bridge Type	Length	Psi	Imported	Reference:
Independently assessed	E1 Steel lintel with perforated steel base plate	12.45	0.050	Yes	ig
Table K1 - Approved	E3 Sill	11.42	0.040	Yes	
Table K1 - Approved	E4 Jamb	27.85	0.050	Yes	
Independently assessed	E5 Ground floor (normal)	19.05	0.059	Yes	
Table K1 - Approved	E6 Intermediate floor within a dwelling	17.04	0.070	Yes	
Table K1 - Approved	E10 Eaves (insulation at ceiling level)	6.45	0.060	No	
Table K1 - Approved	E11 Eaves (insulation at rafter level)	17.04	0.040	No	
Table K1 - Approved	E16 Corner (normal)	9.94	0.090	Yes	
Table K1 - Approved	E18 Party wall between dwellings	9.94	0.060	Yes	
Table K1 - Default	P1 Party wall - Ground floor	9.02	0.160	No	
Table K1 - Default	P2 Party wall - Intermediate floor within a dwelling	8.02	0.000	No	
Table K1 - Default	P4 Party wall - Roof (insulation at ceiling level)	1.70	0.240	No	
Table K1 - Default	P5 Party wall - Roof (insulation at rafter level)	6.82	0.080	No	
Table K1 - Default	R1 Head of roof window	0.55	0.080	Yes	
Table K1 - Default	R2 Sill of roof window	0.55	0.060	Yes	
Table K1 - Default	R3 Jamb of roof window	1.96	0.080	Yes	

Y-value 0.072 W/m²K

18.0 Pressure Testing

Yes

Designed AP₅₀ 5.00 m³/(h.m²) @ 50 Pa

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Property Tested ?

As Built AP₅₀

m³/(h.m²) @ 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

26

Total number of L.E.L. fittings

26

Percentage of L.E.L. fittings

100.00

%

External

External lights fitted

No

23.0 Electricity Tariff

Standard

24.0 Main Heating 1

Percentage of Heat

100

%

Database Ref. No.

17550

Fuel Type

Mains gas

Main Heating

BGB

SAP Code

102

In Winter

89.8

In Summer

79.1

Controls

CBE Programmer, room thermostat and TRVs

PCDF Controls

0

Delayed Start Stat

Yes

Sap Code

2106

Flue Type

Balanced

Fan Assisted Flue

Yes

Is MHS Pumped

Pump in heated space

Heat Emitter

Radiators

Flow Temperature

Normal (> 45°C)

25.0 Main Heating 2

None

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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	Yes
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

28.2 Waste Water Heat Recovery System

Total rooms with shower and/or bath 2

Instantaneous System 1

Database ID	80007
Brand Model	ITHO, SHRU 60
Details	Year: 2012 + current Efficiency: 56.8 Utilisation factor: 0.974
Number of mixer showers in rooms with a bath	1
Number of mixer showers in rooms without a bath	1

29.0 Hot Water Cylinder

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
Loss	1.40
Pipes insulation	Fully insulated primary pipework

L
kWh/day

31.0 Thermal Store

None

Recommendations

Lower cost measures

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	£32	B 86	
	Typical Cost	Typical savings per year	Ratings after improvement SAP rating	Environmental Impact
Solar photovoltaic panels, 2.5 kWp	£3,500 - £5,500	£317	A 96	