

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)



Property and Energy
Services Ltd.

Property Reference	3260-1	Issued on Date	08/05/2019
Assessment Reference	3260-1	Prop Type Ref	
Property	1, Aldworth Rise, Reading, RG1 7NA		
SAP Rating	88 B	DER	13.34
Environmental	90 B	TER	17.66
CO ₂ Emissions (t/year)	0.78	% DER<TER	24.46
General Requirements Compliance	Pass	DFEE	46.91
		TFEE	51.95
		% DFEE<TFEE	9.71
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	South
Property Tenure	Owner-occupied
Transaction Type	New dwelling
Terrain Type	Urban
1.0 Property Type	House, End-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:	19.05 m	45.25 m ²	2.42 m
	1st Storey:	17.04 m	36.09 m ²	2.55 m

7.0 Living Area	15.96	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	89.55	68.28

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	47.54

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	10.06	10.06
Skeiling	External Slope Roof	Plasterboard, insulated slope	0.16	34.87	34.33

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	0.09	45.25

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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	Manufacture	Solid Door							1.00
W-1.4	Manufacture	Window	Double Low-E Soft 0.05			0.63		0.70	1.40
Velux	Manufacture	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 2	Window	[1] Cavity wall	South	Dark-coloured curtain or roller blind	0.00					2.66	100
Opening 3	Solid Door	[1] Cavity wall	South							2.30	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 6	Window	[1] Cavity wall	South	Dark-coloured curtain or roller blind	0.00					1.14	100
Opening 7	Window	[1] Cavity wall	East	Dark-coloured curtain or roller blind	0.00					1.64	100
Opening 8	Roof Window	[2] Skeiling	South	Dark-coloured curtain or roller blind						0.54	100

14.0 Conservatory

15.0 Draught Proofing

%

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

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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	0.056	W/m²K
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18.0 Pressure Testing	Yes	
Designed AP ₅₀	5.00	m³/(h.m²) @ 50 Pa
Property Tested ?		
As Built AP ₅₀		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
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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
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24.0 Main Heating 1	Database
Percentage of Heat	100 %

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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	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	150.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework

L
kWh/day

31.0 Thermal Store	None
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32.0 Photovoltaic Unit		One Dwelling		
PV Cells kWp	Orientation	Elevation	Overshading	Connected to Dwelling
1.00	South	30°	None Or Little	Yes

Recommendations

Lower cost measures
None

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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	£42	B 90	