

OVERVIEW REPORT



Dwelling Address	Flat 5, George St, RG1 7NP
Report Date	05/04/2022
Property Type	Flat, SemiDetached
Floor Area [m ²]	48

This document is not an Energy Performance Certificate (EPC) as required by the Energy Performance of Buildings Regulations

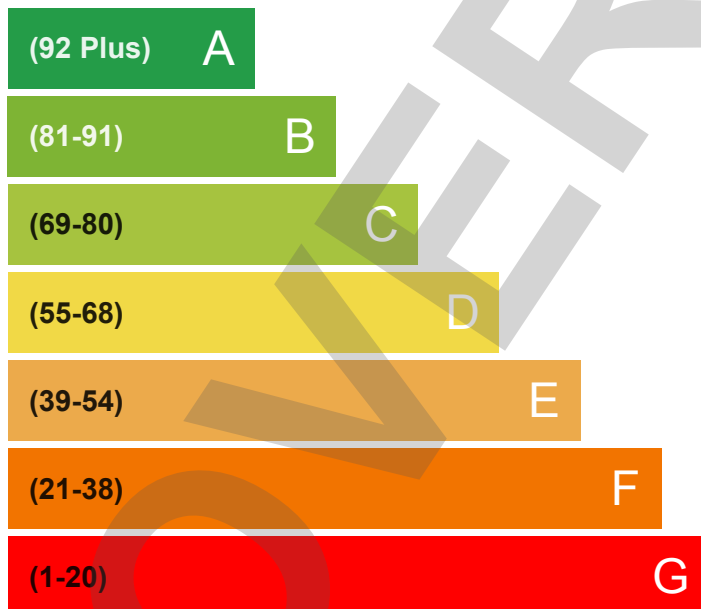
Energy Rating

The current energy rating represents the overall energy efficiency of the dwelling. The potential energy rating is the overall energy rating of the dwelling after all of the recommend measures provided on the next page have been installed. A higher score represents a more energy efficient dwelling with lower fuel bills.

Most energy efficient - lower running costs

CURRENT

POTENTIAL



80

80

Least energy efficient- higher running costs

Breakdown of property's energy performance

Each feature is assessed as one of the following:

Very Poor	Poor	Average	Good	Very Good
Feature	Description	Energy Performance		
Walls	Average thermal transmittance 0.18 W/m ² K	Very Good		
Roof	Average thermal transmittance 0.13 W/m ² K	Very Good		
Floor	Average thermal transmittance 0.13 W/m ² K	Very Good		
Windows	High performance glazing	Very Good		
Main heating	Boiler and radiators, mains gas	Good		
Main heating controls	Programmer, room thermostat and TRVs	Good		
Hot water	From main system	Good		
Lighting	Low energy lighting in all fixed outlets	Very Good		
Air tightness	Air permeability 5.0 m ³ /h.m ² (assumed)	Good		

Primary Energy use

The primary energy use for this property per year is 120 kilowatt hour (kWh) per square metre

Estimated CO₂ emissions of the dwelling

The estimated CO₂ rating provides an indication of the dwelling's impact on the environment in terms of carbon dioxide emissions; the higher the rating the less impact it has on the environment.

The estimated CO₂ emissions for this dwellings is: **1.0** per year

With the recommended measures the potential CO₂ emissions could be: **1.0** per year

Recommendations

The recommended measures provided below will help to improve the energy efficiency of the dwelling. To reach the dwelling's potential energy rating all of the recommended measures shown below would need to be installed. Having these measures installed individually or in any other order may give a different result when compared with the cumulative potential rating.

Recommended measure	Typical Yearly Saving	Potential Rating after measure installed	Cumulative savings (per year)	Cumulative Potential Rating
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Estimated energy use and potential savings

Estimated energy cost for this property over a year

£299

Over a year you could save

£0

Heating use in this property

Heating a property usually makes up the majority of energy costs. Where applicable, this table shows the energy that could be saved in this property by insulating the loft and walls, based on typical energy use.



Space Heating

1926

kWh per year



Water Heating

1591

kWh per year

The estimated cost and savings show how much the average household would spend in this property for heating, lighting and hot water. It is not based on how energy is used by the people living at the property.

Contacting the assessor and the accreditation scheme

Assessor contact details	
Assessor name	Mr. Yahia Kheder
Assessor's accreditation number	EES/026149
Email Address	y.Kheder@syntegragroup.com

Accreditation scheme contact details	
Accreditation scheme	Elmhurst Energy Systems Ltd
Telephone	03300536774
Email Address	y.Kheder@syntegragroup.com

Assessment details	
Related party disclosure	No related party
Date of assessment	05/04/2022
Date of certificate	05/04/2022
Type of assessment	SAP, new dwelling

PREDICTED ENERGY ASSESSMENT

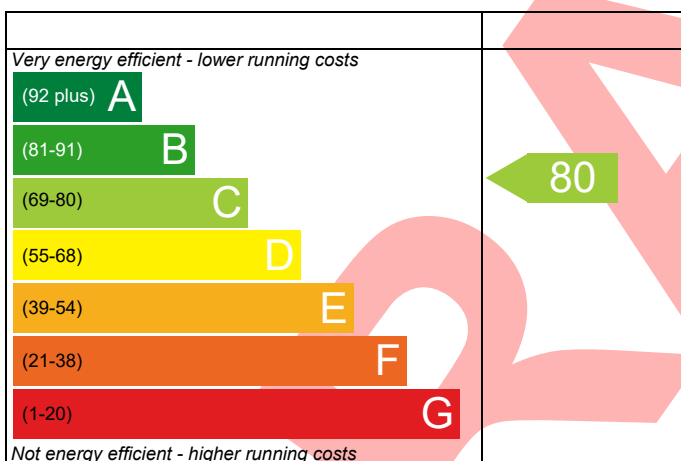
Flat 5, 49a-51a, George St,
Reading ,
RG1 7NP

Dwelling type: Flat, Semi-Detached
Date of assessment: 05/04/2022
Produced by: Yahia Kheder
Total floor area: 48.4 m²

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

The energy performance has been assessed using the Government approved SAP2012 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating

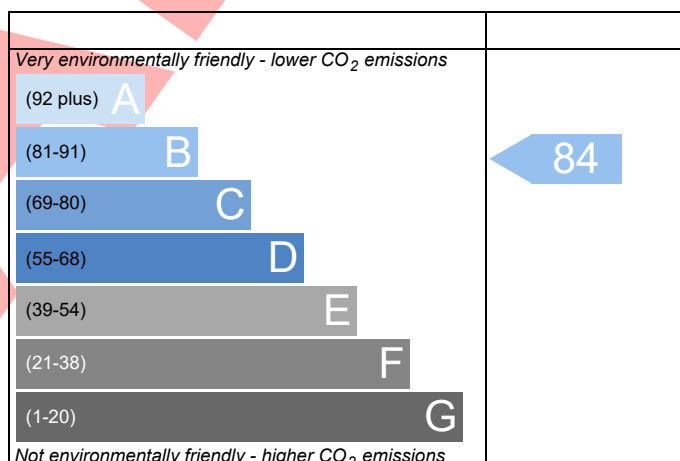


England

EU Directive
2002/91/EC

The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

Environmental Impact (CO₂) Rating



England

EU Directive
2002/91/EC

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BUILDING REGULATION COMPLIANCE

Calculation Type: New Build (As Designed)

Property Reference	George St_Flat 5			Issued on Date	05/04/2022
Assessment Reference	George St Baseline	Prop Type Ref			
Property	Flat 5, 49a-51a, George St, Reading , RG1 7NP				
SAP Rating	80 C	DER	25.04	TER	25.29
Environmental	84 B	% DER<TER	0.97		
CO ₂ Emissions (t/year)	1.02	DFEE	65.17	TFEE	76.40
General Requirements Compliance	Pass	% DFEE<TFEE	14.70		
Assessor Details	Mr. Yahia Kheder, Yahia Kheder, Tel: 03300 536 774, y.Kheder@syntegrargroup.com			Assessor ID	U477-0001
Client	Craig Mitchell, 9173				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Mains gas		
Fuel factor	1.00 (mains gas)		
Target Carbon Dioxide Emission Rate (TER)	25.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	25.04	kgCO ₂ /m ²	Pass
	-0.25 (-1.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	76.40	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	65.17	kWh/m ² /yr	
	-11.2 (-14.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.18 (max. 0.30)	0.18 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.13 (max. 0.25)	0.13 (max. 0.70)	Pass
Roof	0.13 (max. 0.20)	0.13 (max. 0.35)	Pass
Openings	1.20 (max. 2.00)	1.20 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	5.00 (design value)	m ³ /(h.m ²) @ 50 Pa	
Maximum	10.0	m ³ /(h.m ²) @ 50 Pa	Pass

Limiting System Efficiencies

4 Heating efficiency

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BUILDING REGULATION COMPLIANCE

Calculation Type: New Build (As Designed)

Main heating system

Boiler system with radiators or underfloor - Mains gas
Data from manufacturer
SEDBUK 2009 Mains Gas
Combi boiler
Efficiency: 89.5% SEDBUK2009
Minimum: 88.0%

Pass

Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls

Programmer, room thermostat and TRVs

Pass

Hot water controls

No cylinder

Boiler interlock

Yes

Pass

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100 %

Minimum

75 %

Pass

8 Mechanical ventilation

Not applicable

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Slight

Pass

Based on:

Overshading

Average

Windows facing East

3.78 m², No overhang

Windows facing West

7.56 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Solid Wall

0.00 W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

5.00 (design value) m³/(h.m²) @ 50 Pa

Maximum

10.0 m³/(h.m²) @ 50 Pa

Pass

10 Key features

Party wall U-value

0.00 W/m²K

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RECOMMENDATIONS

	Typical cost	Typical savings per year	Energy efficiency	Environmental impact	Result
Low energy lights			0	0	Already installed
Solar water heating			0	0	Not applicable
Photovoltaic			0	0	Not applicable
Wind turbine			0	0	Not applicable
Totals	£0	£0	C 80	B 84	

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

Orientation	West
Property Tenure	Unknown
Transaction Type	New dwelling
Terrain Type	Urban
1.0 Property Type	Flat, Semi-Detached
2.0 Number of Storeys	1
3.0 Date Built	2022
4.0 Sheltered Sides	1
5.0 Sunlight/Shade	Average or unknown

6.0 Measurements

	Ground Floor:	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
		21.60 m	48.40 m ²	2.40 m

7.0 Living Area	29.40	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	U-Value (W/m ² K)	Gross Area (m ²)	Nett Area (m ²)
External Wall 1	Cavity Wall	0.18	52.56	41.22

9.1 Party Walls

Description	Type	Construction	U-Value (W/m ² K)	Area (m ²)
Party Wall 1	Solid Wall		0.00	20.60

10.0 External Roofs

Description	Type	U-Value (W/m ² K)	Gross Area (m ²)	Nett Area (m ²)
External Roof 1	External Flat Roof	0.13	48.40	46.86

11.0 Heat Loss Floors

Description	Type	Construction	U-Value (W/m ² K)	Area (m ²)
Heat Loss Floor 1	Ground Floor - Solid		0.13	48.40

12.0 Opening Types

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)

Description	Data Source	Type	Glazing	Glazing Gap	Argon Filled	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Windows	Manufacturer	Window	Double Low-E Soft 0.05			0.63		0.70	1.20
Roof light	Manufacturer	Roof Window	Double Low-E Soft 0.05			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Curtain Type	Overhang Ratio	Wide Overhang	Width (m)	Height (m)	Count	Area (m²)	Curtain Closed
East Door	Window	[1] External Wall 1	East	None	0.00					3.78	
West W	Window	[1] External Wall 1	West	None	0.00					7.56	
Rooflight	Roof Window	[1] External Roof 1	Horizontal	None						1.54	

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
Table K1 - Approved	E2 Other lintels (including other steel lintels)	5.40	0.300	Yes
Table K1 - Approved	E3 Sill	3.60	0.040	Yes
Table K1 - Approved	E4 Jamb	8.40	0.050	Yes
Table K1 - Approved	E5 Ground floor (normal)	21.60	0.160	Yes
Table K1 - Default	E15 Flat roof with parapet	21.60	0.560	Yes
Table K1 - Approved	E16 Corner (normal)	4.80	0.090	Yes
Table K1 - Approved	E18 Party wall between dwellings	4.80	0.060	Yes
Table K1 - Default	R1 Head of roof window	2.20	0.080	Yes
Table K1 - Default	R2 Sill of roof window	2.20	0.060	Yes
Table K1 - Default	R3 Jamb of roof window	2.80	0.080	Yes

Y-value 0.127 W/m²K

18.0 Pressure Testing

Yes

Designed AP₅₀ 5.00 m³/(h.m²) @ 50 Pa

Property Tested ?

As Built AP₅₀ m³/(h.m²) @ 50 Pa

19.0 Mechanical Ventilation

Summer Overheating

Windows open in hot weather Windows fully open

Cross ventilation possible Yes

Night Ventilation Yes

Air change rate 6.00

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				1
Number of passive vents				0
Number of flueless gas fires				0

21.0 Fixed Cooling System

No

22.0 Lighting

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)

Internal

Total number of light fittings	5	
Total number of L.E.L. fittings	5	
Percentage of L.E.L. fittings	100.00	%

External

External lights fitted	No
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23.0 Electricity Tariff	Standard
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24.0 Main Heating 1	Manufacturer	
Description	xx	
Percentage of Heat	100	%
Main Heating	BGW	
SAP Code	104	
Efficiency (Sedbuk 2009)	89.5	%
Model Name	Mains Gas	
Manufacturer	SEDBUK 2009	
Controls	CBE Programmer, room thermostat and TRVs	
PCDF Controls	0	
Delayed Start Stat	Yes	
Sap Code	2106	
Burner Control	Modulating	
Flue Type	Balanced	
Fan Assisted Flue	Yes	
Is MHS Pumped	Pump in heated space	
Heat Emitter	Radiators	
Flow Temperature	Normal (> 45°C)	
Combi boiler type	Standard Combi	
Combi keep hot type	None	

25.0 Main Heating 2	None
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Community Heating	None
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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	None
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Recommendations

Lower cost measures

SUMMARY FOR INPUT DATA

Calculation Type: New Build (As Designed)

None

Further measures to achieve even higher standards

None