PREDICTED ENERGY ASSESSMENT



3 bed, Dwelling type: House, End-Terrace

2 bath Date of assessment: 30/05/2019

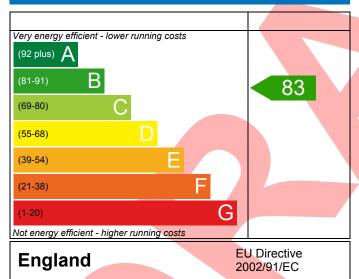
Produced by: Michael Brogden

Total floor area: 76.86 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.

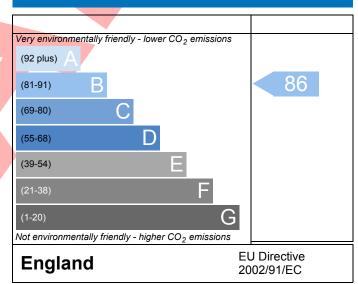
The energy performance has been assessed using the Government approved SAP2012 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.

Energy Efficiency Rating



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



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)



Assessment Reference Property 3 bed, 2 bath SAP Rating 8 8 8 B DER 18.49 TER 19.18 19.18 Environmental 86 8 B DERTER 3.60 CO. Emissions (t/year) General Requirements Compliance Pass WDFEE-CIFEE 7.67 Assessor Details Mr. Michael Brogden, Michael Brogden, Tel: 0333 5777 577, Inchael@darren-evans.co.uk Client SUMARY FOR INPUT DATA FOR New Build (As Designed) Criterion 1 — Achieving the TER and TFEE rate 1a TER and DER Fuel for main heating Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) Dwelling Carbon Dioxide Emission Rate (DER) Dwelling Carbon Dioxide Emission Rate (DER) Target Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE) Target Fabric Energy Efficiency (DFEE) Limiting Pabric Standards 2 Fabric U-values Element External wall 0.27 (max: 0.30) 0.27 (max: 0.70) Pass Pass Criterion 2 — Limits on design flexibility Limiting Pabric Standards 2 Fabric U-values Element Average Highest External wall 0.00 (max: 0.20) 0.15 (max: 0.70) Pass Openings 1.39 (max: 2.00) 1.50 (max: 3.30) Pass Openings Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability Limiting System Efficiencies	Property Reference	Plot 059 OP				Issued on Date	30/05/2019
SAP Rating		Plot 059 OP		Pr	op Type Ref	Type 51 Hipped 1FW 2	2SW END
SAP Rating		3 hed 2 hath					
Solution		3 500, 2 50011	02.0	250	10.40	750	10.10
CO, Emissions (t/year) General Requirements Compliance Assessor Details Mr. Michael Brogden, Michael Brogden, Tel: 0333 5777 577, Inchael@darren-evans.co.uk Mr. Michael Brogden, Michael Brogden, Tel: 0333 5777 577, Inchael@darren-evans.co.uk Client SUMARY FOR INPUT DATA FOR New Build (As Designed) Criterion 1 – Achieving the TER and TFEE rate 1a TER and DER Fuel for main heating Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) 19.18 Dwelling Carbon Dioxide Emission Rate (DER) 19.18 Dwelling Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE) Target Fabric Energy Efficiency (DFEE) Dwelling Fabric Energy Efficiency (DFEE) Target Fabric Energy Efficiency (DFEE) Dwelling Fabric Energy Efficiency (DFEE) External wall 0.27 (max. 0.30) 0.27 (max. 0.70) Pass Floor 0.15 (max. 0.25) 0.15 (max. 0.70) Pass Pass Openings 1.39 (max. 2.00) 1.50 (max. 3.30) Pass 2 Thermal bridging Thermal bridging Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 10.0 10.					18.49		19.18
Assessor Details					40.60		E2 72
Assessor Details Mr. Michael Brogden, Michael Brogden, Tel: 0333 5777 577, michael@darren-evans.co.uk Client SUMARY FOR INPUT DATA FOR New Build (As Designed) Criterion 1 – Achieving the TER and TFEE rate 1a TER and DER Fuel for main heating Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) Target Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE) Target Fabric Energy Efficiency (DFEE) Target Fabric Standards 2 Fabric U-values Element Average Highest External wall 0.00 (max. 0.20) Pass Roof 0.10 (max. 0.20) 0.15 (max. 0.70) Pass Roof 0.10 (max. 0.20) 0.15 (max. 0.35) 0.26 (max. 0.35) 0.27 (max. 0.30) 0.27 (max. 0.30) 0.27 (max. 0.35) 0.28 (max. 0.35) 0.29 (max. 0.30) 0.27 (max. 0.35) 0.29 (max. 0.35) 0.29 (max. 0.30) 0.27 (max. 0.35) 0.29 (max. 0.35) 0.29 (max. 0.30) 0.39 (max. 0.20) 0.15 (max. 0.35) 0.29 (max. 0.35) 0.29 (max. 0.30) 0.34 (permeability Air permeability at 50 pascals Maximum 10.00 m³/(h.m²) @ 50 Pa Pass		•		_	49.00		33.72
Client SUMARY FOR INPUT DATA FOR New Build (As Designed) Criterion 1 - Achieving the TER and TFEE rate 1a TER and DER Fuel for main heating Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) Dwelling Carbon Dioxide Emission Rate (DER) Dwelling Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE) Dwelling Fabric Energy Efficiency (DFEE) Limits on design flexibility Limiting Fabric Standards 2 Fabric U-values Element Average Highest External wall 0.27 (max. 0.30) 0.27 (max. 0.70) Pass Party wall 0.00 (max. 0.20) - Pass Floor 0.15 (max. 0.25) 0.15 (max. 0.70) Pass Roof 0.10 (max. 0.20) 0.10 (max. 0.35) Pass Openings 1,39 (max. 2.00) 1.50 (max. 3.30) Pass 2 Thermal bridging Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 10.00 max/lh.m² (@ 50 Pa		·					
SUMARY FOR INPUT DATA FOR New Build (As Designed) Criterion 1 - Achieving the TER and TFEE rate 1a TER and DER Fuel for main heating Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) 19.18 Dwelling Carbon Dioxide Emission Rate (DER) 19.18 Limiting Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE) 149.60 4.1 (-7.6%) Criterion 2 - Limits on design flexibility Limiting Fabric Standards 2 Fabric U-values Element Average Highest External wall 0.27 (max. 0.30) 0.27 (max. 0.70) Pass Party wall 0.00 (max. 0.20) - Pass Floor 0.15 (max. 0.25) 0.15 (max. 0.70) Pass Roof 0.10 (max. 0.20) 0.10 (max. 0.35) Pass Openings 1.39 (max. 2.00) 1.50 (max. 3.30) Pass 2 Tabrmal bridging Thermal bridging Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 10.00 10.00	Assessor Details		_	Tel: 0333 5777 577,		Assessor ID	R034-0001
SUMARY FOR INPUT DATA FOR New Build (As Designed) Criterion 1 - Achieving the TER and TFEE rate 1a TER and DER Fuel for main heating Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) 18.49 -0.69 (-3.6%) 18.49 -0.69 (-3.6%) 19.18 Bay	Client	michael@darren-evans.c	JO.UK				
Criterion 1 - Achieving the TER and TFEE rate 1a TER and DER Fuel for main heating Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) 18.49 -0.69 (-3.6%) 18.49 -0.69 (-3.6%) 18.49 -0.69 (-3.6%) 18.49 -0.69 (-3.6%) 18.49 -0.69 (-3.6%) 18.49 -0.69 (-3.6%) 18.49 -0.69 (-3.6%) 18.40 -0.60 (-3.6%) 18.40 -0.60 (-3.6%) 18.40 -0.60 (-3.6%) 18.40 -0.60 (-3.6%) 18.40 -0.60 (-3.6%) 18.40 -0.60 (-3.6%) 18.40 -0.60 (-3.6%) 18.40 -0.60 (-		T DATA FOR New Build /A	- Daviera II)				
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Fuel for main heating		ring the TER and TFEE rate					
Fuel factor Target Carbon Dioxide Emission Rate (TER) Dwelling Carbon Dioxide Emission Rate (DER) 18.49 -0.69 (-3.6%) **BegCO2/m²** **Pass** **June 18.49 **							_
Target Carbon Dioxide Emission Rate (TER)		ating					
Dwelling Carbon Dioxide Emission Rate (DER) 18.49							
-0.69 (-3.6%) kgCO ₂ /m ²	_						
Target Fabric Energy Efficiency (TFEE)	Dwelling Carbon	Dioxide Emission Rate (DI	- =				Pass
Target Fabric Energy Efficiency (DFEE) Dwelling Fabric Energy Efficiency (DFEE) 49.60 kWh/m²/yr 4.1 (-7.6%) Criterion 2 – Limits on design flexibility Limiting Fabric Standards 2 Fabric U-values Element External wall 0.27 (max. 0.30) 0.27 (max. 0.70) Pass Party wall 0.00 (max. 0.20) - Pass Floor 0.15 (max. 0.25) 0.15 (max. 0.70) Pass Roof 0.10 (max. 0.20) 0.10 (max. 0.35) Pass Openings 1.39 (max. 2.00) 1.50 (max. 3.30) Pass 2a Thermal bridging Thermal bridging Thermal bridging Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 10.0 m³/(h.m²) @ 50 Pa Pass	1b TEEE and DEEE		-0.69	(-3.6%)		kgCO ₂ /m²	
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Openings 1.39 (max. 2.00) 1.50 (max. 3.30) Pass Thermal bridging Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 5.00 (design value) m³/(h.m²) @ 50 Pa 10.0 m³/(h.m²) @ 50 Pa Pass	Roof		0.10 (max. 0.20)				Pass
Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 5.00 (design value) m³/(h.m²) @ 50 Pa Pass	Openings				.50 (max. 3.30))	Pass
Thermal bridging calculated from linear thermal transmittances for each junction 3 Air permeability Air permeability at 50 pascals Maximum 5.00 (design value) m³/(h.m²) @ 50 Pa Pass							
3 Air permeability Air permeability at 50 pascals Maximum 5.00 (design value) m³/(h.m²) @ 50 Pa m³/(h.m²) @ 50 Pa Pass			r thermal transr	nittances for each ju	nction		
Air permeability at 50 pascals Maximum 5.00 (design value) m³/(h.m²) @ 50 Pa m³/(h.m²) @ 50 Pa Pass				,			
Maximum			5.00	design value)		m ³ /(h.m ²) @ 50 Pa	
		,		0			Pass
		Efficiencies				,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	

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



4 Heating efficiency

BUILDING REGULATION COMPLIANCE Calculation Type: New Build (As Designed)



Main heating system	Boiler system with radiators or underfloor - Mains gas Data from database Ideal LOGIC COMBI ESP1 35 Combi boiler Efficiency: 89.6% SEDBUK2009 Minimum: 88.0%	Pass
Secondary heating system	None	<u></u>
5 Cylinder insulation		_
Hot water storage	No cylinder	
<u>6 Controls</u>		
Space heating controls	Time and temperature zone control	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 sur	nmer	
9 Summertime temperature		
Overheating risk (Severn Valley)	Not significant	Pass
Based on:		
Overshading	Average	
Windows facing North	1.32 m², No overhang]
Windows facing East	4.89 m², No overhang	
Windows facing West	4.07 m², No overhang 4.00 ach]
Air change rate Blinds/curtains	Dark-coloured curtain or roller blind, closed 100% of daylight]
Billius/curtains	hours	
Criterion 4 – Building performance consistent with I		_
Party Walls		
Туре	U-value	
Filled Cavity with Edge Sealing	0.00 W/m²K	Pass
Air permeability and pressure testing		
3 Air permeability		
Air permeability at 50 pascals	5.00 (design value) m ³ /(h.m ²) @ 50 Pa	
Maximum	10.0 m³/(h.m²) @ 50 Pa	Pass
10 Key features		
Party wall U-value	0.00 W/m²K	
Roof U-value	0.10 W/m²K	

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



RECOMMENDATIONS



	Typical cost	Typical savings per year	Energy efficiency	Environmenta I impact	Result
Low energy lights			0	0	Already installed
Solar water heating	£4,000 - £6,000	£29	B 85	B 88	Recommended
Photovoltaic	£3,500 - £5,500	£309	A 96	A 98	Recommended
Wind turbine			0	0	Not applicable
Totals	£7,500 - £11,500	£338	A 96	A 98	



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



THERMAL BRIDGING

Calculation Type: New Build (As Designed)



Property Reference	Plot 059 OP				Issued on Date	30/05/2019
Assessment Reference	Plot 059 OP			Prop Type Ref	Type 51 Hipped 1FV	V 2SW END
Property	3 bed, 2 bath					
SAP Rating		83 B	DER	18.49	TER	19.18
Environmental		86 B	% DER <ter< th=""><th></th><th>3.60</th><th></th></ter<>		3.60	
CO ₂ Emissions (t/ye	ear)	1.21	DFEE	49.60	TFEE	53.72
General Requireme	ents Compliance	Pass	% DFEE <tfe< th=""><th>E</th><th>7.67</th><th></th></tfe<>	E	7.67	
Assessor Details	Mr. Michael Brogden, Michael michael@darren-evans.co.uk	•	l: 0333 5777 5	77,	Assessor ID	R034-0001
Client						

	Junction detail	Source Type	Psi (W/mK)	Length (m)	Result	Reference
External wall	E2 Other lintels (including other steel lintels)	Independently assessed	0.211	10.52	2.22	CATNIC
External wall	E3 Sill	Table K1 - Approved	0.040	8.50	0.34	
External wall	E4 Jamb	Table K1 - Approved	0.050	22.50	1.13	
External wall	E5 Ground floor (normal)	Independently assessed	0.038	17.54	0.67	E05-CXBR- CW4040_100 mm-01- 150B&
External wall	E6 Intermediate floor within a dwelling	Independently assessed	0.004	17.54	0.07	E06-CXBR- CW4040_100 mm-01
External wall	E10 Eaves (insulation at ceiling level)	Table K1 - Approved	0.060	17.54	1.05	
External wall	E16 Corner (normal)	Independently assessed	0.042	9.74	0.41	E16-CXBR- CW4040_100 mm-01
External wall	E18 Party wall between dwellings	Independently assessed	0.052	9.74	0.51	E18-CXBR- CW4040_100 mm-01-RD22
Party wall	P1 Party wall - Ground floor	Independently assessed	0.010	8.55	0.09	P01-CXBR- EWM22- 150B&Bperp
Party wall	P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	0.000	8.55	0.00	
Party wall	P4 Party wall - Roof (insulation at ceiling level)	Independently assessed	0.117	8.55	1.00	P04-CXBR- EWM22- Spand

Total: 7.48 W/mK: Y-Value: 0.047 W/m²K:



BASIC COMPLIANCE REPORT Calculation Type: New Build (As Designed)



Property Reference	Plot 059 OP				Issued on Date	30/05/2019
Assessment	Plot 059 OP		Pro	p Type Ref	Type 51 Hipped 1FW	2SW END
Reference						
Property	3 bed, 2 bath					
SAP Rating		83 B	DER	18.49	TER	19.18
Environmental		86 B	% DER <ter< th=""><th></th><th>3.60</th><th></th></ter<>		3.60	
CO ₂ Emissions (t/y	rear)	1.21	DFEE	49.60	TFEE	53.72
General Requirem	ents Compliance	Pass	% DFEE <tfee< th=""><th></th><th>7.67</th><th></th></tfee<>		7.67	
Assessor Details	Mr. Michael Brogden, Micha michael@darren-evans.co.u	0 ,	el: 0333 5777 577,		Assessor ID	R034-0001
Client						

SUMARY 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) 19.18 $kgCO_2/m^2$ Dwelling Carbon Dioxide Emission Rate (DER) 18.49 $kgCO_2/m^2$ **Pass** -0.69 (-3.6%) $kgCO_2/m^2$ 1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE) 53.72 kWh/m²/yr Dwelling Fabric Energy Efficiency (DFEE) 49.60 kWh/m²/yr -4.1 (-7.6%) kWh/m²/yr

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.27 (max. 0.30)	0.27 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.15 (max. 0.25)	0.15 (max. 0.70)	Pass
Roof	0.10 (max. 0.20)	0.10 (max. 0.35)	Pass
Openings	1.39 (max. 2.00)	1.50 (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) Maximum 10.0 **Pass**

Limiting System Efficiencies

4 Heating efficiency



Regs Region: England **Elmhurst Energy Systems** SAP2012 Calculator (Design System) version 4.10r08

Pass

BASIC COMPLIANCE REPORT Calculation Type: New Build (As Designed)



Main heating system	Boiler system with radiators or underfloor - Data from database Ideal LOGIC COMBI ESP1 35 Combi boiler Efficiency: 89.6% SEDBUK2009 Minimum: 88.0%	Mains gas		Pass
Secondary heating system	None		ĺ□	
5 Cylinder insulation				
Hot water storage	No cylinder			
<u>6 Controls</u>				
Space heating controls	Time and temperature zone control			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 su	mmer			
9 Summertime temperature				
Overheating risk (Severn Valley)	Not significant			Pass
Based on:				
Overshading	Average			
Windows facing North	1.32 m ² , No overhang			
Windows facing East	4.89 m ² , No overhang 4.07 m ² , No overhang			
Windows facing West Air change rate	4.07 m , No overnang] 1	
Blinds/curtains	Dark-coloured curtain or roller blind, closed	100% of daylight]]	
Billius/ curtains	hours	100% of daylight		
Criterion 4 – Building performance consistent with	DER and DFEE rate		,	
Party Walls				
Туре	U-value			
Filled Cavity with Edge Sealing	0.00	W/m²K		Pass
Air permeability and pressure testing				
3 Air permeability				
Air permeability at 50 pascals	5.00 (design value)]	
Maximum	10.0			Pass
10 Key features				
Party wall U-value	0.00	W/m²K		
Roof U-value	0.10	W/m²K		

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





Property Reference	Plot 059 OP)				Iss	ued on Da	1te 30/0	05/2019
Assessment	Plot 059 OP)			Prop Type	Ref Typ	e 51 Hipped	d 1FW 2SW E	ND
Reference									
Property	3 bed, 2 bat	th							
SAP Rating			83 B	DER	18	3.49	TER		19.18
Environmental			86 B	% DER <ter< th=""><th></th><th></th><th>3.60</th><th></th><th></th></ter<>			3.60		
CO₂ Emissions (t/yea	ır)		1.21	DFEE	49	0.60	TFEE		53.72
General Requiremen	ts Compliance		Pass	% DFEE <tfe< th=""><th>E</th><th></th><th>7.67</th><th></th><th></th></tfe<>	E		7.67		
Assessor Details	Mr. Michael Br	ngden. Micha	ael Brogden. T	el: 0333 5777 5	77.		Assessor I	D RO3	34-0001
	michael@darre	_	_	0000 0177 0	,				
Client									
SUMMARY FOR INPU	T DATA FOR: N	ew Build (As	Designed)						
Orientation		East							
Property Tenure		Unknown							
Transaction Type		New dwellin	ng						
Terrain Type		Urban							
1.0 Property Type		House, End-	Terrace						
2.0 Number of Storeys		2							
3.0 Date Built		2017							
4.0 Sheltered Sides		2							
5.0 Sunlight/Shade		Average or u	unknown						
6.0 Measurements		G	round Floor: 1st Storey:	Heat Loss Perimo 17.54 m 17.54 m	eter Int	38.43 m 38.43 m	2	Average Stor 2.31 2.56	m
7.0 Living Area		31.02			m²				
8.0 Thermal Mass Parar	neter	Precise calcu	ulation		7				
Thermal Mass		205.97			kJ/m²K				
9.0 External Walls		<u></u>							
Description	Туре	Con	struction			U-Value	Карра	Gross Area	Nett Area
E to continue III 4	6- 11 14/-	II	n all alastada		de al Cille d	(W/m²K)		(m²)	(m²)
External Wall 1	Cavity Wa		ity, any outside st	oard on dabs, AAC bructure	лоск, ппеа	0.27	60.00	85.42	70.90
9.1 Party Walls Description	Туре	Con	struction				U-Value (W/m²K)	Kappa (kJ/m²K)	Area (m²)
Party Wall 1	Filled Cavi Edge Seali	,	gle plasterboard o cks, cavity or cavit	n dabs both sides, I y fill	ightweight agg	gregate	0.00	110.00	41.61
9.2 Internal Walls	6	atuu ati a						Vacana	A ===
Description	Con	struction						Kappa (kJ/m²K)	Area (m²)
Internal Wall 1	Plas	terboard on tim	nber frame					9.00	119.90
10.0 External Roofs Description	Туре	Con	struction			U-Value (W/m²K)		Gross Area (m²)	Nett Area (m²)
External Roof 1	External P	lane Roof Plas	sterboard, insulate	ed at ceiling level		0.10	9.00	34.43	34.43
10.2 Internal Ceilings									





Internal Ceiling 1 Plasterboard ceiling, carpeted chipboard floor 9.0 11.0 Heat Loss Floors Description Type Construction U-Value (W/m²K) (kJ/n) Heat Loss Floor 1 Ground Floor - Solid Slab on ground, screed over insulation 0.15 110 11.2 Internal Floors Description Construction Kap (kJ/n) floor Plasterboard ceiling, carpeted chipboard floor 18.0 12.0 Opening Types Description Data Source Type Glazing Glazing Argon G-value Frame Fram	ppa Are: m²K) (m² 0.00 38.4
Internal Ceiling 1 Plasterboard ceiling, carpeted chipboard floor 9.0 11.0 Heat Loss Floors Description Type Construction U-Value (W/m²K) (kJ/n Heat Loss Floor 1 Ground Floor - Solid Slab on ground, screed over insulation 0.15 110 11.2 Internal Floors Description Construction Kap (kJ/n floor Plasterboard ceiling, carpeted chipboard floor 18.0 12.0 Opening Types Description Data Source Type Glazing Glazing Argon G-value Frame	ppa Are: m²K) (m² 0.00 38.4 ppa Are: m²K) (m² 0.00 38.4 ppa Are: m²K) (m² 0.00 38.4
Description Type Construction U-Value (W/m²k) (IkJ/n Heat Loss Floor 1 Ground Floor - Solid Slab on ground, screed over insulation 0.15 110 11.2 Internal Floors Description Construction Flasterboard ceiling, carpeted chipboard floor 12.0 Opening Types Description Data Source Type Glazing Glazing Argon G-value Frame	m²K) (m² 0.00 38.4 ppa Are: m²K) (m² 0.00 38.4 rame U Va actor (W/n
Heat Loss Floor 1 Ground Floor - Solid Slab on ground, screed over insulation 0.15 110. 11.2 Internal Floors Description Construction Kap (kJ/n floor Plasterboard ceiling, carpeted chipboard floor 18.0 12.0 Opening Types Description Data Source Type Glazing Glazing Argon G-value Frame	ppa Are: m²K) (m²00 38.4 rame U Va actor (W/n
Description Construction Kap (kJ/n floor Plasterboard ceiling, carpeted chipboard floor 18.0 12.0 Opening Types Description Data Source Type Glazing Glazing Argon G-value Frame Fr	m²K) (m² .00 38.4 rame U Va actor (W/n
floor Plasterboard ceiling, carpeted chipboard floor 18.0 12.0 Opening Types Description Data Source Type Glazing Glazing Argon G-value Frame F	m²K) (m² .00 38.4 rame U Va actor (W/n
12.0 Opening Types Description Data Source Type Glazing Glazing Argon G-value Frame Frame	rame U Va actor (W/n
Description Data Source Type Glazing Glazing Argon G-value Frame Frame	actor (W/n
dap iliica iypc ia	, ,
French Door Manufacture Window Double glazed 0.71 0	J., J
r Window Manufacture Window Double glazed 0.71 0	0.70 1.4
Solid door tall window Manufacture Solid Door	1.2
r half glazed Manufacture Half Glazed Door Double Low-E Soft 0.05 r 0.63	0.70 1.5
13.0 Openings	
	Area Curta (m²) Close
	2.12
front windows Window [1] External Wall 1 Dark- coloured	
	4.89 100
rear door Half Glazed Door [1] External Wall 1 West rear windows Window [1] External Wall 1 Dark-	2.12 100
coloured West curtain or 0.00 4 roller blind	4.07 100
LHS windows Window [1] External Wall 1 Dark-coloured	1.32 100
blind	
14.0 Conservatory None	
15.0 Draught Proofing 100 %	
16.0 Draught Lobby	
17.0 Thermal Bridging Calculate Bridges	



17.1 List of Bridges



Source Type	Bridge Type	e		Length	Psi	Imported	Reference:
Independently assessed		itels (including othe	r steel lintels)	10.52	0.211	No	CATNIC
Table K1 - Approved	E3 Sill			8.50	0.040	No	
Table K1 - Approved Independently assessed	E4 Jamb	floor (normal)		22.50 17.54	0.050 0.038	No No	E05-CXBR-CW4040 100mm-01-
independently assessed	LO GIOUIIO I	noor (normal)		17.54	0.038	INU	150B&
Independently assessed		diate floor within a d	_	17.54	0.004	No	E06-CXBR-CW4040_100mm-01
Table K1 - Approved		insulation at ceiling	level)	17.54	0.060	No	
Independently assessed	E16 Corner	,		9.74	0.042	No	E16-CXBR-CW4040_100mm-01
Independently assessed Independently assessed	-	vall between dwellin all - Ground floor	igs	9.74 8.55	0.052 0.010	No No	E18-CXBR-CW4040_100mm-01-RD22 P01-CXBR-EWM22-150B&Bperp
Table K1 - Default		ıll - Intermediate flo	or within a	8.55	0.000	No	TOT-CABIT-LWWIZZ-130BQBperp
	dwelling						
Independently assessed	P4 Party wa	ıll - Roof (insulation	at ceiling level)	8.55	0.117	No	P04-CXBR-EWM22-Spand
Y-value		0.047			W/m²K		
18.0 Pressure Testing		Yes					
Designed AP₅o		5.00			m³/(h.m	²) @ 50 Pa	
Property Tested ?					Ħ		
As Built AP ₅₀					m³/(h.m	²) @ 50 Pa	
19.0 Mechanical Ventilation							
Summer Overheating							
Windows open in hot	weather	Windows ha	alf onen				
		Yes	ан орен		_		
Cross ventilation possi	bie						
Night Ventilation		No					
Air change rate		4.00					
Mechanical Ventilation							
Mechanical Ventilation Sy	ystem Preser	nt No					
20.0 Fans, Open Fireplaces, Fl	ues						
		MHS	SHS	Other	Total		
Number of Chimneys Number of open flues		0		0	0		
Number of intermittent fa		U		U	3		
					3		
Number of passive vents	ins				0		
Number of passive vents Number of flueless gas fire					0		
•		No					
Number of flueless gas fire 21.0 Fixed Cooling System		No					
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting		No					
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal	es						
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f	es	15					
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L.	es fittings fittings	15 15			0		
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit	es fittings fittings	15					
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit External	es fittings fittings	15 15 100.00			0		
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit	es fittings fittings	15 15			0		
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit External	es fittings fittings	15 15 100.00			0		
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit External External lights fitted	es fittings fittings	15 15 100.00			0		
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit External External lights fitted 23.0 Electricity Tariff	es fittings fittings	15 15 100.00 No Standard			0		
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit External External lights fitted 23.0 Electricity Tariff 24.0 Main Heating 1	es fittings fittings	15 100.00 No Standard Database			0		
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit External External lights fitted 23.0 Electricity Tariff 24.0 Main Heating 1 Percentage of Heat Database Ref. No.	es fittings fittings	15 100.00 No Standard Database 100 17929			0		
Number of flueless gas fire 21.0 Fixed Cooling System 22.0 Lighting Internal Total number of light f Total number of L.E.L. Percentage of L.E.L. fit External External lights fitted 23.0 Electricity Tariff 24.0 Main Heating 1 Percentage of Heat	es fittings fittings	15 15 100.00 No Standard Database 100			0		





25.0 Main Heating 2	None
Combi keep hot type	None
Combi boiler type	Standard Combi
Flow Temperature	Normal (> 45°C)
Heat Emitter	Radiators
Is MHS Pumped	Pump in heated space
Fan Assisted Flue	Yes
Flue Type	Balanced
Sap Code	2110
Delayed Start Stat	Yes
PCDF Controls	0
Controls	CBI Time and temperature zone control
In Summer	87.3
In Winter	90.5

29.0 Hot Water Cylinder	None
SAP Code	901
Water use <= 125 litres/person/day	Yes
Solar Panel	No
Storage System	
Waste Water Heat Recovery	No
Instantaneous System 2	INO
Waste Water Heat Recovery	No
Instantaneous System 1	INO
Waste Water Heat Recovery	No
Flue Gas Heat Recovery System	No
Water Heating	Main Heating 1
28.0 Water Heating	HWP From main heating 1
Community Heating	None

Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

	Typical Cost	Typical savings	Ratings after improvement	
		per year	SAP rating	Environmental Impact
Solar water heating	£4,000 - £6,000	£29	B 85	
	Typical Cost	Typical savings	Ratings after improvement	
		per year	SAP rating	Environmental Impact
Solar photovoltaic panels, 2.5 kWp	£3,500 - £5,500	£309	A 96	

