



SAP Report Submission for Building Regulations Compliance

Client: Dave Cottle Civil Engineering

Project: Plot 2, Land adjacent to Dolwar

Pentre Llanrhaeadr, Denbigh, Denbighshire, LL16 4NT

Contact: Stuart Hatherall

Blueprint Planning & Design Ltd stuart@blueprintarchitectural.com

Report Issue Date: 11/07/2022

EXCELLENCE IN ENERGY ASSESSMENT

PREDICTED ENERGY ASSESSMENT



Plot 2, Land adjacent to Dolwar, Pentre Llanrhaeadr, Denbigh, Denbighshire,

LL16 4NT

Dwelling type: House, Mid-Terrace

Date of assessment: 11/07/2022

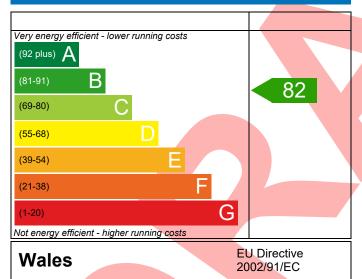
Produced by: Blueprint Planning & Design Ltd

Total floor area: 95.56 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.

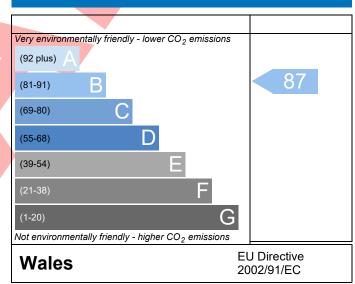
The energy performance has been assessed using the Government approved SAP2012 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.

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.



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



Property Reference	C102 Plot 2				Issued on Date	11/07/2022
Assessment	As Designed		Pr	rop Type Ref		
Reference						
Property	Plot 2, Land adjacent to D	olwar, Pentre	Llanrhaeadr, Der	nbigh, Denbigh	nshire, LL16 4NT	
SAP Rating		82 B	DER	15.93	TER	16.46
Environmental		87 B	% DER <ter< th=""><th></th><th>3.22</th><th></th></ter<>		3.22	
CO ₂ Emissions (t/yea	ar)	1.24	FEE	56.75	TFEE	N/A
General Requiremer	nts Compliance	Pass	% DFEE <tfee< th=""><th></th><th>N/A</th><th></th></tfee<>		N/A	
Assessor Details	Mr. Stuart Hatherall, Blueprir	nt Planning & [Design Ltd, Tel: 01	1978 356 500,	Assessor ID	N887-0001
	stuart@blueprintarchitectura					
Client	Dave Cottle Civil Engineering,	Dave Cottle C	ivil Engineering			
SUMARY FOR INPUT	DATA FOR New Build (As Des	signed)				
Criteria 1 – The DER r	must be no greater than the	ΓER				
1a TER and DER						
Fuel for main heat	ting	Mains ga	is .			
Fuel factor		1.00 (ma	ins gas)			
Target Carbon Dio	xide Emission Rate (TER)	16.46			kgCO ₂ /m ²	
Dwelling Carbon [Dioxide Emission Rate (DER)	15.93			kgCO ₂ /m ²	Pass
		-0.53 (-3	.2%)		kgCO ₂ /m ²	
Criteria 2 – Limits on	design flexibility					
Building Fabric						
2 Fabric U-values						
Element	Avera	age	Н	lighest		
External wa		(max. 0.21)	0	.20 (max. 0.70	0)	Pass
Party wall		(max. 0.20)	-			Pass
Floor		(max. 0.18)).14 (max. 0.70	,	Pass
Roof		(max. 0.15)		.08 (max. 0.35	,	Pass
Openings		(max. 1.60)	1	40 (max. 3.30))	Pass
2a Thermal bridgi						
_	ng calculated from linear the	rmal transmitt	ances for each ju	inction		
3 Air permeability		0.00/1			2.44 2)	
•	ty at 50 pascals		sign value)		m ³ /(h.m ²) @ 50 Pa	
Maximum		10.0			m ³ /(h.m ²) @ 50 Pa	Pass
Fixed Building Ser						
4 Heating efficien		D 11		1 0		
Main heating s	system		stem with radiato m database	ors or underfic	or - Mains gas	Pass
			er Greenstar 4000	0 GR4700iW 3	0 C NG	
		Combi b				
		Minimur	y: 89.3% SEDBUK n: 88.0%	2009		
Secondary hea	iting system	None	30.070			

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



Regs Region: Wales Elmhurst Energy Systems SAP2012 Calculator (Design System) version 4.14r19

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



5 Cylinder insulation			
Hot water storage	No cylinder		
<u>6 Controls</u>			
Space heating controls	Programmer, TRVs and flow switch		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 overheating due to solar and	other gains		
9 Summertime temperature			
Overheating risk (Wales)	Not significant		Pass
Based on:			
Overshading	Average		
Windows facing East	9.25 m ² , No overhang		
Windows facing West	4.35 m ² , No overhang		
Air change rate	8.00 ach		
Blinds/curtains	None		
Criterion 4 – Building performance consistent with	DER		
Party Walls			
Туре	U-value		
Unfilled Cavity with Edge Sealing	0.20	W/m²K	Pass
Air-pressure testing			
3 Air permeability			
Air permeability at 50 pascals	6.00 (design value)	m³/(h.m²) @ 50 Pa	
Maximum	10.0	m³/(h.m²) @ 50 Pa	Pass
10 Key features			
Roof U-value	0.08	W/m²K	
Door U-value	1.20	W/m²K	
Photovoltaic array	0.96	kW	



RECOMMENDATIONS



	Typical cost	Typical savings per year	Energy efficiency	Environmental impact	Result
Low energy lights			0	0	Already installed
Solar water heating	£4,000 - £6,000	£26	B 83	B 89	Recommended
Photovoltaic			0	0	Already installed
Wind turbine	£15,000 - £25,000	£695	A 103	A 107	Recommended
Totals	£19,000 - £31,000	£721	A 103	A 107	





THERMAL BRIDGING

Calculation Type: New Build (As Designed)



Property Reference	C102 Plot 2	Issued on Date 11/07						
Assessment	As Designed	As Designed Prop Type Ref						
Reference								
Property	Plot 2, Land adjacent to D	olwar, Pentre	Llanrhaeadr,	Denbigh, Denbig	hshire, LL16 4NT			
SAP Rating		82 B	DER	15.93	TER	16.46		
Environmental		87 B	% DER <ter< th=""><th></th><th>3.22</th><th></th></ter<>		3.22			
CO ₂ Emissions (t/ye	ear)	1.24	FEE	56.75	TFEE	N/A		
General Requireme	nts Compliance	Pass	% DFEE <tfe< th=""><th>E</th><th>N/A</th><th></th></tfe<>	E	N/A			
Assessor Details	Mr. Stuart Hatherall, Blueprin stuart@blueprintarchitectura	_	Design Ltd, Tel	: 01978 356 500,	1978 356 500, Assessor ID N887-0001			
Client	Dave Cottle Civil Engineering	, Dave Cottle C	ivil Engineerir	g				

	Junction detail	Source Type	Psi (W/mK)	Length (m)	Result	Reference
External wall	E1 Steel lintel with perforated steel base plate	Table K1 - Approved	0.500	10.91	5.46	
External wall	E3 Sill	Table K1 - Approved	0.040	8.05	0.32	
External wall	E4 Jamb	Table K1 - Approved	0.050	23.26	1.16	
External wall	E5 Ground floor (normal)	Table K1 - Approved	0.160	10.60	1.70	
External wall	E6 Intermediate floor within a dwelling	Table K1 - Approved	0.070	10.60	0.74	
External wall	E10 Eaves (insulation at ceiling level)	Table K1 - Approved	0.060	2.00	0.12	
External wall	E12 Gable (insulation at ceiling level)	Table K1 - Approved	0.240	10.60	2.54	
External wall	E25 Staggered party wall between dwellings	Table K1 - Default	0.120	17.76	2.13	
Party wall	P1 Party wall - Ground floor	Table K1 - Default	0.160	18.03	2.88	
Party wall	P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	0.000	18.03	0.00	
Party wall	P4 Party wall - Roof (insulation at ceiling level)	Table K1 - Default	0.240	13.23	3.18	

Total: 20.23 W/mK: Y-Value: 0.135 W/m²K:

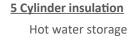


Regs Region: Wales Elmhurst Energy Systems SAP2012 Calculator (Design System) version 4.14r19

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



sessment A	102 Plot 2 s Designed		Prop Type Ref	Issued on Date	11/07/20
ference	is Designed		Ргор Туре кет		
	lot 2, Land adjacent to Do	lwar, Pentre Llanrh	naeadr, Denbigh, Denbi	ghshire, LL16 4NT	
P Rating		82 B DER	15.93	TER	16.4
vironmental			ER <ter< td=""><td>3.22</td><td></td></ter<>	3.22	
₂ Emissions (t/year)		1.24 FEE	56.75	TFEE	N/A
neral Requirements Co	ompliance	Pass % D	FEE <tfee< td=""><td>N/A</td><td></td></tfee<>	N/A	
sessor Details Mr. S	ituart Hatherall, Blueprint	Planning & Design	Ltd, Tel: 01978 356 500	O, Assessor ID	N887-00
	t@blueprintarchitectural.				
ent Dave	Cottle Civil Engineering, D	ave Cottle Civil En	gineering		
MARY FOR INPUT DATA	A FOR New Build (As Desig	gned)			
eria 1 – The DER must	be no greater than the TE	R			
TER and DER					
Fuel for main heating		Mains gas			
Fuel factor		1.00 (mains ga	s)		
Target Carbon Dioxide	Emission Rate (TER)	16.46		kgCO ₂ /m ²	
		45.00			
Dwelling Carbon Dioxid	ie Emission Rate (DER)	15.93		kgCO ₂ /m ²	Pas
Dwelling Carbon Dioxid	ie Emission Rate (DER)	-0.53 (-3.2%)		kgCO ₂ /m ² kgCO ₂ /m ²	Pas
Dwelling Carbon Dioxid ceria 2 – Limits on desig					Pas
					Pas
eria 2 – Limits on desig					Pas
eria 2 – Limits on desig Building Fabric		-0.53 (-3.2%)	Highest		Pas
teria 2 – Limits on desig Building Fabric 2 Fabric U-values	gn flexibility Averag	-0.53 (-3.2%)	Highest 0.20 (max. 0.7	kgCO ₂ /m ²	
teria 2 – Limits on desig Building Fabric 2 Fabric U-values Element	gn flexibility Averag 0.20 (n	-0.53 (-3.2%)	_	kgCO ₂ /m ²	Pas
Building Fabric 2 Fabric U-values Element External wall	Averag 0.20 (n	-0.53 (-3.2%) ge nax. 0.21)	_	kgCO ₂ /m ²	Pas Pas
teria 2 – Limits on design Building Fabric 2 Fabric U-values Element External wall Party wall	Average 0.20 (n 0.20 (n 0.14 (n	-0.53 (-3.2%) ge nax. 0.21) nax. 0.20)	0.20 (max. 0.7	kgCO ₂ /m ² 70)	Pas Pas Pas
Building Fabric 2 Fabric U-values Element External wall Party wall Floor	Average 0.20 (n 0.20 (n 0.14 (n 0.08 (n	-0.53 (-3.2%) ge nax. 0.21) nax. 0.20) nax. 0.18)	0.20 (max. 0.7 - 0.14 (max. 0.7	kgCO ₂ /m ² 70) 70)	Pas Pas Pas
Building Fabric 2 Fabric U-values Element External wall Party wall Floor Roof	Average 0.20 (n 0.20 (n 0.14 (n 0.08 (n	-0.53 (-3.2%) ge nax. 0.21) nax. 0.20) nax. 0.18) nax. 0.15)	0.20 (max. 0.7 - 0.14 (max. 0.7 0.08 (max. 0.3	kgCO ₂ /m ² 70) 70)	Pas Pas Pas
Building Fabric 2 Fabric U-values Element External wall Party wall Floor Roof Openings 2a Thermal bridging	Average 0.20 (n 0.20 (n 0.14 (n 0.08 (n	-0.53 (-3.2%) ge nax. 0.21) nax. 0.20) nax. 0.18) nax. 0.15) nax. 1.60)	0.20 (max. 0.7 - 0.14 (max. 0.7 0.08 (max. 0.3 1.40 (max. 3.3	kgCO ₂ /m ² 70) 70)	Pas Pas Pas
Building Fabric 2 Fabric U-values Element External wall Party wall Floor Roof Openings 2a Thermal bridging	Average 0.20 (n 0.20 (n 0.14 (n 0.08 (n 1.37 (n	-0.53 (-3.2%) ge nax. 0.21) nax. 0.20) nax. 0.18) nax. 0.15) nax. 1.60)	0.20 (max. 0.7 - 0.14 (max. 0.7 0.08 (max. 0.3 1.40 (max. 3.3	kgCO ₂ /m ² 70) 70)	Pas Pas Pas
Building Fabric 2 Fabric U-values Element External wall Party wall Floor Roof Openings 2a Thermal bridging Thermal bridging ca	Average 0.20 (n 0.20 (n 0.14 (n 0.08 (n 1.37 (n	-0.53 (-3.2%) ge nax. 0.21) nax. 0.20) nax. 0.18) nax. 0.15) nax. 1.60)	0.20 (max. 0.7 - 0.14 (max. 0.7 0.08 (max. 0.3 1.40 (max. 3.3	kgCO ₂ /m ² 70) 70)	Pas Pas Pas
Building Fabric 2 Fabric U-values Element External wall Party wall Floor Roof Openings 2a Thermal bridging Thermal bridging ca	Average 0.20 (n 0.20 (n 0.14 (n 0.08 (n 1.37 (n	-0.53 (-3.2%) ge hax. 0.21) hax. 0.20) hax. 0.18) hax. 0.15) hax. 1.60)	0.20 (max. 0.7 - 0.14 (max. 0.7 0.08 (max. 0.3 1.40 (max. 3.3	kgCO ₂ /m ² 70) 70)	Pas Pas Pas Pas



No cylinder

Boiler system with radiators or underfloor - Mains gas

Worcester Greenstar 4000 GR4700iW 30 C NG



Main heating system

Secondary heating system

Pass

Data from database

Efficiency: 89.3% SEDBUK2009

Combi boiler

None

Minimum: 88.0%

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



<u>6 Controls</u>			
Space heating controls	Programmer, TRVs and flow switch	:h	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 overheating due to solar and	other gains		
9 Summertime temperature			
Overheating risk (Wales)	Not significant		Pass
Based on:			
Overshading	Average		
Windows facing East	9.25 m ² , No overhang		
Windows facing West	4.35 m ² , No overhang		
Air change rate	8.00 ach		
Blinds/curtains	None		
Criterion 4 – Building performance consistent with	DER		
Party Walls			
Туре	U-value		
Unfilled Cavity with Edge Sealing	0.20	W/m²K	Pass
Air-pressure testing			
3 Air permeability			
Air permeability at 50 pascals	6.00 (design value)		
Maximum	10.0		Pass
10 Key features			
Roof U-value	0.08	W/m²K	
Door U-value	1.20	W/m²K	
Photovoltaic array	0.96	kW	





Property Reference	C102 Plot 2					Iss	ued on Da	te 11/0	07/2022
Assessment	As Designed	l			Prop Type	Ref			
Reference									
Property	Plot 2, Land	adjacent to	Dolwar, Pentre	Llanrhaeadr, D	enbigh, Dei	nbighshi	re, LL16 4N	IT	
SAP Rating			82 B	DER	15.	93	TER		16.46
Environmental			87 B	% DER <ter< th=""><th></th><th></th><th>3.22</th><th></th><th></th></ter<>			3.22		
CO₂ Emissions (t/yea	r)		1.24	FEE	56.	75	TFEE		N/A
General Requiremen	ts Compliance		Pass	% DFEE <tfee< th=""><th></th><th></th><th>N/A</th><th></th><th></th></tfee<>			N/A		
	Mr. Stuart Hath stuart@bluepri		orint Planning & I ural.com	Design Ltd, Tel:	01978 356	500,	Assessor II	D N88	37-0001
Client	Dave Cottle Civi	l Engineerir	ng, Dave Cottle C	ivil Engineering	Ţ				
SUMMARY FOR INPU	T DATA FOR: N	ew Build (A	As Designed)						
Orientation		West]				
Property Tenure		Unknown			Ī				
Transaction Type		Marketed s	sale		Ī				
Terrain Type		Rural			Ī				
1.0 Property Type		House, Mic	d-Terrace		Ī				
2.0 Number of Storeys		2			Ī				
3.0 Date Built		2022			1				
4.0 Sheltered Sides		0			Ī				
5.0 Sunlight/Shade		Average or	unknown		j				
6.0 Measurements									
			Н	eat Loss Perime	ter Inte	rnal Floo		verage Stor	ey Height
		(Ground Floor:	10.60 m	ter Inte	47.78 m	2	2.38 ו	m
		(ter Inte		2	•	m
7.0 Living Area		20.95	Ground Floor:	10.60 m	ter Inte	47.78 m	2	2.38 ו	m
7.0 Living Area 8.0 Thermal Mass Paran	neter		Ground Floor: 1st Storey:	10.60 m	7	47.78 m	2	2.38 ו	m
	neter	20.95	Ground Floor: 1st Storey:	10.60 m	7	47.78 m	2	2.38 ו	m
8.0 Thermal Mass Paran	neter	20.95 Precise cald	Ground Floor: 1st Storey:	10.60 m] m²	47.78 m	2	2.38 ו	m
8.0 Thermal Mass Paran Thermal Mass	neter	20.95 Precise cald 232.64	Ground Floor: 1st Storey:	10.60 m] m²	47.78 m 47.78 m	2 2 Kappa	2.38 I 2.68 I	m m
8.0 Thermal Mass Paran Thermal Mass 9.0 External Walls		20.95 Precise cald 232.64 Co	Ground Floor: 1st Storey: culation	10.60 m 10.60 m] m²] kJ/m²K	47.78 m 47.78 m	2 2 Kappa	2.38 i 2.68 i	m m
8.0 Thermal Mass Paran Thermal Mass 9.0 External Walls Description External Cavity Walls	Туре	20.95 Precise cald 232.64 Co	Culation onstruction wity wall; dense plass	10.60 m 10.60 m] m²] kJ/m²K	47.78 m 47.78 m U-Value (W/m²K)	Kappa	2.38 I 2.68 I	M M Nett Area (m²)
8.0 Thermal Mass Paran Thermal Mass 9.0 External Walls Description	Туре	20.95 Precise cald 232.64 Co Ca fill	Culation onstruction wity wall; dense plass	10.60 m 10.60 m] m²] kJ/m²K	47.78 m 47.78 m U-Value (W/m²K)	Kappa (kJ/m²K) 140.00	2.38 i 2.68 i 2.68 i Gross Area (m²) 54.14	Nett Area (m²) 38.58
8.0 Thermal Mass Paran Thermal Mass 9.0 External Walls Description External Cavity Walls 9.1 Party Walls	Type Cavity Wal	20.95 Precise cald 232.64 Co Co avity with Sin	culation onstruction wity wall; dense plassed cavity, any outside	10.60 m 10.60 m	m² kJ/m²K gregate block,	47.78 m 47.78 m U-Value (W/m²K) 0.20	Kappa (kJ/m²K) 140.00	2.38 r 2.68 r Gross Area (m²) 54.14	Nett Area (m²) 38.58
8.0 Thermal Mass Paran Thermal Mass 9.0 External Walls Description External Cavity Walls 9.1 Party Walls Description	Type Cavity Wal Type Unfilled Ca	20.95 Precise cald 232.64 Co Co avity with Sin	culation onstruction wity wall; dense plassed cavity, any outside onstruction	10.60 m 10.60 m	m² kJ/m²K gregate block,	47.78 m 47.78 m U-Value (W/m²K) 0.20	Kappa (kJ/m²K) 140.00 U-Value (W/m²K)	2.38 i 2.68 i 2.68 i Gross Area (m²) 54.14	Nett Area (m²) 38.58
8.0 Thermal Mass Paran Thermal Mass 9.0 External Walls Description External Cavity Walls 9.1 Party Walls Description Party Wall 1	Type Cavity Wal Type Unfilled Ca Edge Sealin	20.95 Precise cald 232.64 Co Co avity with Sin	culation onstruction wity wall; dense plassed cavity, any outside onstruction	10.60 m 10.60 m	m² kJ/m²K gregate block,	47.78 m 47.78 m U-Value (W/m²K) 0.20	Kappa (kJ/m²K) 140.00 U-Value (W/m²K)	2.38 i 2.68 i 2.68 i Gross Area (m²) 54.14	Nett Area (m²) 38.58
8.0 Thermal Mass Paran Thermal Mass 9.0 External Walls Description External Cavity Walls 9.1 Party Walls Description Party Wall 1	Type Cavity Wal Type Unfilled Ca Edge Sealii Cons	20.95 Precise cald 232.64 Co Co avity with sing blockstruction	culation culati	10.60 m 10.60 m	m² kJ/m²K gregate block,	47.78 m 47.78 m U-Value (W/m²K) 0.20	Kappa (kJ/m²K) 140.00 U-Value (W/m²K)	2.38 i 2.68 i 2.68 i Gross Area (m²) 54.14 Kappa (kJ/m²K) 110.00	Nett Area (m²) 38.58 Area (m²) 81.54
8.0 Thermal Mass Paran Thermal Mass 9.0 External Walls Description External Cavity Walls 9.1 Party Walls Description Party Wall 1 9.2 Internal Walls Description Internal Wall Block	Type Cavity Wal Type Unfilled Ca Edge Sealii Cons	20.95 Precise cald 232.64 Co Solution Co Solution See block, plasteterboard on till Co Co Co Co Co Co Co Co Co	culation culati	10.60 m 10.60 m	m² kJ/m²K gregate block,	47.78 m 47.78 m U-Value (W/m²K) 0.20	Kappa (kJ/m²K) 140.00 U-Value (W/m²K) 0.20	2.38 i 2.68 i 2.68 i 2.68 i 3 i 4 i 54.14 Kappa (kJ/m²K) 110.00 Kappa (kJ/m²K) 75.00	Nett Area (m²) 38.58 Area (m²) 81.54 Area (m²) 63.56



Regs Region: Wales Elmhurst Energy Systems SAP2012 Calculator (Design System) version 4.14r19



10.2 Internal Ceilings Description		Construction								Kappa (kJ/m²K)	Area (m²)
Internal Ceiling		Plasterboard ceiling,	carpeted chipbe	oard floor						9.00	47.78
11.0 Heat Loss Floors Description	Туре	Cons	truction						alue m²K)	Kappa (kJ/m²K)	Area (m²)
Heat Loss Floor 1	Grour	nd Floor - Solid Othe	r						14	0.00	47.78
11.2 Internal Floors Description		Construction								Kappa (kJ/m²K)	Area (m²)
Internal Floor 1		Plasterboard ceiling,	carpeted chipbe	oard floor						18.00	47.78
12.0 Opening Types Description	Data Source	Туре	Glazing		Glazing Gap	Argon Filled	G-val		rame Type	Frame Factor	U Value (W/m²K)
Windows	Manufacture	e Window	Double Low-E	Soft 0.05	Gup	Tilled	0.63		, Abc	0.70	1.40
Doors	r Manufacture r	e Half Glazed Door	Double Low-E	Soft 0.05			0.63	3		0.70	1.20
13.0 Openings Name Open	ing Type	Location	Orientation	Curtain	Overhang	Wide	Width	Height	Count		Curtain
Front Windows Wind	low	[1] External Cavity	West	Type None	Ratio 0.00	Overhang	; (m)	(m)		(m²) 4.35	Closed
Door Half (Glazed Door	Walls [1] External Cavity			0.00						
Deen Mindere NA/ind		Walls	West							1.96	
Rear Windows Wind		[1] External Cavity Walls	East	None	0.00					9.25	
14.0 Conservatory		None									
15.0 Draught Proofing		100				%					
16.0 Draught Lobby		No									
17.0 Thermal Bridging		Calculate Bri	idges								
17.1 List of Bridges											
Source Type	Bridge				Length	Psi	Imported				
Table K1 - Approved Table K1 - Approved	E3 Sill	el lintel with perforat	ed steel base pi	ate	10.91 8.05	0.500 0.040	Yes No				
Table K1 - Approved	E4 Jam	nh			23.26	0.050	No				
Table K1 - Approved		ound floor (normal)			10.60	0.160	Yes				
Table K1 - Approved		ermediate floor within	n a dwelling		10.60	0.070	Yes				
Table K1 - Approved		ves (insulation at ceil	_		2.00	0.060	No				
Table K1 - Approved		able (insulation at ceil			10.60	0.240	No				
Table K1 - Default	E25 Sta	aggered party wall be	tween dwelling	S	17.76	0.120	No				
Table K1 - Default	P1 Par	ty wall - Ground floor			18.03	0.160	No				
Table K1 - Default	P2 Par dwellir	ty wall - Intermediate	e floor within a		18.03	0.000	No				
Table K1 - Default		ty wall - Roof (insulat	ion at ceiling lev	rel)	13.23	0.240	No				
Y-value		0.135				W/m²K					
18.0 Pressure Testing		Yes									
Designed AP₅o		6.00				$m^3/(h.m^2$) @ 50 Pa	Э			
Property Tested ?											
•						m³/(h.m²					



Summer Overheating





Windows open in hot weather	Windows fo	ully open			
Cross ventilation possible	Yes				
Night Ventilation	Yes				
Air change rate	8.00				
Mechanical Ventilation					
Mechanical Ventilation System Presen	t No				
20.0 Fans, Open Fireplaces, Flues					
	MHS	SHS	Other	Total	
Number of Chimneys	0		0	0	
Number of open flues Number of intermittent fans	0		0	0	
Number of Intermittent rans Number of passive vents				4 0	
Number of flueless gas fires				0	
21.0 Fixed Cooling System	No				
	.10				
22.0 Lighting					
Internal				¬	
Total number of light fittings	31			_	
Total number of L.E.L. fittings	31			_	
Percentage of L.E.L. fittings	100.00			%	
External				_	
External lights fitted	Yes				
Light and motion sensor	Yes				
23.0 Electricity Tariff	Standard				
24.0 Main Heating 1	Database	-	-]	
Description	Main Gas Boile	r			
Percentage of Heat	100			%	
Database Ref. No.	18907				
Fuel Type	Mains gas				
Main Heating	BGW				
SAP Code	104				
In Winter	90.2				
In Summer	87.6				
Controls	CBG Programm	ner, TRVs and f	low switch		
PCDF Controls	0			1	
Delayed Start Stat	Yes			Ī	
Sap Code	2108			Ī	
Flue Type	Balanced			Ī	
Fan Assisted Flue	Yes			Ī	
Is MHS Pumped	Pump in heated	d space		Ī	
Heat Emitter	Radiators			Ī	
Flow Temperature	Normal (> 45°C	<u> </u>		Ī	
Combi boiler type	Standard Comb			Ī	
Combi keep hot type	None			Ī	
25 0 Main Heating 2	None			 7	





Community Heating	None			
28.0 Water Heating	HWP From r	nain heating 1		
Water Heating	Main Heatin	g 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	y Yes			
SAP Code	901			
29.0 Hot Water Cylinder	None			
	One Dwellin Orientation South	g Elevation 30°	Overshading None Or Little	Connected to Dwelling No

Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

	Typical Cost	Typical savings	Ratings a	fter improvement
	Typical Cost	per year	SAP rating	Environmental Impact
Solar water heating	£4,000 - £6,000	£26	B 83	
	Typical Cost	Typical savings	Ratings a	fter improvement
	Typical Cost	per year	SAP rating	Environmental Impact
Wind turbine	£15,000 - £25,000	£695	A 103	

