PREDICTED ENERGY ASSESSMENT



Plot 071, 3 Bed, K. WC. B Dwelling type: House, Semi-Detached

Date of assessment: 10/10/2019

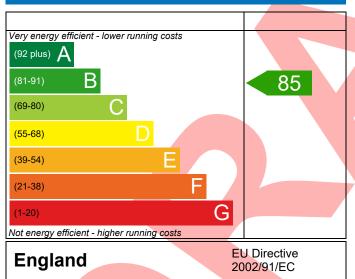
Produced by: Mitchell Bennellick

Total floor area: 94.9 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.

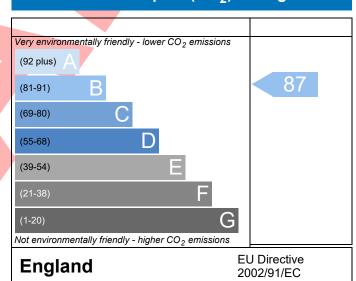
The energy performance has been assessed using the Government approved SAP2012 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.

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.

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



Property Reference 4907-00	12-4615-071			Issued on Date	10/10/2019	
Assessment 071			Prop Type Ref	A32L - Semi - Op		
Reference	2 D - 1 K MC D					
Property Plot 071	, 3 Bed, K, WC, B					
SAP Rating	85		16.18	TER	17.85	
Environmental	87	8		9.34	_	
CO ₂ Emissions (t/year)		DFEE	41.79	TFEE	51.14	
General Requirements Complian	nce Pass	% DFEE <tf< td=""><td>EE</td><td>18.28</td><td></td></tf<>	EE	18.28		
Assessor Details Ms. Eloise U	tley, Eloise Utley , Tel: 018	384 242050, eloise	.utley@aessc.co.	uk Assessor ID	P635-0001	
Client						
SUMARY FOR INPUT DATA FOR N	New Build (As Designed)					
Criterion 1 – Achieving the TER a	nd TFEE rate					
1a TER and DER						
Fuel for main heating						
Fuel factor	1.0	0 (mains gas)				
Target Carbon Dioxide Emission	on Rate (TER) 17.	85		kgCO ₂ /m ²		
Dwelling Carbon Dioxide Emission Rate (DER)		18		kgCO ₂ /m ²	Pass	
		67 (-9.4%)		kgCO ₂ /m ²		
1b TFEE and DFEE						
Target Fabric Energy Efficiency (TFEE) Dwelling Fabric Energy Efficiency (DFEE)		14		kWh/m²/yr		
		79		kWh/m²/yr		
		3 (-18.2%)		kWh/m²/yr	Pass	
Criterion 2 – Limits on design fle	kibility					
Limiting Fabric Standards						
2 Fabric U-values						
Element	Average		Highest			
External wall	0.21 (max. 0.3		0.21 (max. 0.7	0)	Pass	
Party wall	0.00 (max. 0.2				Pass	
Floor	0.13 (max. 0.2		0.13 (max. 0.7	•	Pass	
Roof	0.11 (max. 0.2	•	0.11 (max. 0.3	,	Pass	
Openings	1.37 (max. 2.0	7 (max. 2.00) 1.40 (max. 3.30)				
2a Thermal bridging	d from Constitution		ala tana ast			
Thermal bridging calculate	a from linear thermal tran	ismittances for each	cn Junction			
3 Air permeability		0/1 :		3/11 2 0 5 5 5		
Air permeability at 50 pass		0 (design value)		m ³ /(h.m ²) @ 50 Pa		
Maximum	10.	U		m³/(h.m²) @ 50 Pa	a Pass	

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4 Heating efficiency

Regs Region: England Elmhurst Energy Systems SAP2012 Calculator (Design System) version 4.11r11

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



Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 - Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability and pressure testing 3 Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum Maximum Maximum Maximum Mono Mym²K Pass 4.50 (design value) Maximum Mino Mino Mino Mino Mino Mino Mino Mino	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			
S Cylinder insulation Hot water storage No cylinder Space heating controls Space heating controls No cylinder No cylinder Space heating controls No cylinder					
Hot water storage		None			
Space heating controls Space heating controls Hot water controls Boiler interlock Yes Pass 7 Low energy lights Percentage of fixed lights with low-energy fittings Minimum 75 8 Mechanical ventilation Continuous extract system (decentralised) Specific fan power Maximum 0.7- Pass 8 Mechanical ventilation Continuous extract system (decentralised) Specific fan power Maximum 0.7- Pass 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Average Windows facing East Windows facing East Windows facing West 3.99 m², No overhang Air change rate 4.12 m², No overhang Air change rate 4.00 ach Blinds/curtains None Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing 0.00 M/m²k Pass 10 Key features Party wall U-value None None 10.00 M/m²k Pass Pass 10 Key features Party wall U-value O.00 W/m²k Pass	<u>5 Cylinder insulation</u>				
Space heating controls Hot water controls Boiler interlock Yes Pass **Tlow energy lights Percentage of fixed lights with low-energy fittings Minimum **Ts **Secretary Minimum **Ts **Secretary Minimum **Ts **Secretary Minimum **Ts **Secretary Minimum **Secretary Minimum **On-7 **Pass **Secretary Minimum **Secretary Minimum **On-7 **Pass **Secretary Minimum **On-7 **Pass **Secretary Minimum **On-7 **Pass **Orticerion 3 - Limiting the effects of heat gains in summer **Secretary Minimum **Overheating risk (South East England) **Based on: **Overshading **Windows facing East **Windows facing East **Windows facing East **Windows facing West **Air change rate **Blinds/curtains **None **Criterion 4 - Building performance consistent with DER and DFEE rate **Party Walls **Type **U-value **Pass **Air permeability and pressure testing **3 Air permeability and pressure testing **3 Air permeability and pressure testing **3 Air permeability at 50 pascals **Maximum **10.0 **maximum **10.0 **maximum **Maximum **10.0 **maximum **Maximum **10.0 **Mym²k **Mym	Hot water storage	No cylinder			
Hot water controls Boiler interlock Yes Pass 7 Low energy lights Percentage of fixed lights with low-energy fittings Minimum 75 8 Mechanical ventilation Continuous extract system (decentralised) Specific fan power Maximum 0.7 Pass 7 Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing East Windows facing West Air change rate Bilinds/curtains None Criterion 4 — Building performance consistent with DER and DFEE rate Party Walls Type Filled Cavity with Edge Sealing Air permeability Air permeability at 50 pascals Maximum 10.0 Mym²k Pass 10.00 Mym²k Pass 11.00 Mym²k Pass Party wall U-value Party wall Pass Party wall U-value Party wall Pass Party wall U-value Party wall Pass Party wall U-value Party wall Pass Party wall U-value Party wall Pass Party wall U-value Party wall Pass Party wall U-value Party wall Pass Party wall U-value Party wall Pass Party wall U-value Pass Party wall U-value Party wall Pass Pass Pass Party wall Pass Pass Pass Pass Party wall Pass Pass Pass Pass Pass Pass Pass P	<u>6 Controls</u>				
Boiler interlock 7 Low energy lights Percentage of fixed lights with low-energy fittings Minimum 75 % 8 Mechanical ventilation Continuous extract system (decentralised) Specific fan power Maximum 0.7 Pass Criterion 3 – Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing West Air change rate Blinds/curtains None Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Air permeability at 50 pascals Maximum 10.0 m³/(h.m²) @ 50 Pa Pass 11 Key features Party wall U-value O.00 m³/(h.m²) @ 50 Pa Pass W/m²k W/m²k W/m²k	Space heating controls	Programmer, room thermostat and TRVs	Pass		
7 Low energy lights Percentage of fixed lights with low-energy fittings Minimum 75 % Pass 8 Mechanical ventilation Continuous extract system (decentralised) Specific fan power Maximum 75 Pass Criterion 3 – Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing West Air change rate Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability and pressure testing 3 Air permeability and pressure testing 3 Air permeability and pressure testing Maximum 10.0 m²/(h.m²) @ 50 Pa Maximum None None Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K Roof U-value 0.11 W/m²K	Hot water controls	No cylinder			
Percentage of fixed lights with low-energy fittings Minimum 75 % Pass 8 Mechanical ventilation Continuous extract system (decentralised) Specific fan power Maximum 0.7 Pass Criterion 3 – Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Caylty with Edge Sealing 0.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability and pressure testing 4.50 (design value) Maximum 10.00 m²/(h.m²) @ 50 Pa Maximum 10.00 m²/(h.m²) @ 50 Pa Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K	Boiler interlock	Yes	Pass		
fittings Minimum Minimum To Wy Pass 8 Mechanical ventilation Continuous extract system (decentralised) Specific fan power Maximum Do To Pass Criterion 3 - Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Mindows facing East Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 - Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing D.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum Mindows Mindows Mindows facing West Air permeability at 50 pascals Maximum Mindows Mindo	7 Low energy lights				
8 Mechanical ventilation Continuous extract system (decentralised) Specific fan power Maximum D.7 Pass Criterion 3 – Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing East Windows facing West Air change rate Blinds/curtains None Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability and pressure testing 3 Air permeability and pressure testing Maximum 10.0 Mym²K Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K Roof U-value 0.11 W/m²K		100 %			
Continuous extract system (decentralised) Specific fan power Maximum 0.7 Pass Criterion 3 – Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability and pressure testing 3 Air permeability Air permeability Air permeability O.00 Mym²K Pass Pass 10 Key features Party wall U-value O.00 W/m²K W/m²K Roof U-value O.00 W/m²K W/m²K	Minimum	75 %	Pass		
Specific fan power Maximum 0.7 Maximum 0.7 Pass Criterion 3 – Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability and pressure testing 3 Air permeability Air permeability Air permeability Air permeability Air permeability Air permeability at 50 pascals Maximum 10.0 M/m²K Pass 10 Key features Party wall U-value For the control of th	8 Mechanical ventilation				
Criterion 3 – Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 W/m²K Pass Party wall U-value Party wall U-value O.00 W/m²K Pass Pass 10 Key features Party wall U-value O.00 W/m²K O.01 W/m²K O.01 W/m²K	Continuous extract system (decentralised)				
Criterion 3 – Limiting the effects of heat gains in summer 9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum Maximum Mone 4.50 (design value) Maximum Minum M	Specific fan power	0.1900 0.1800			
9 Summertime temperature Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 10 Key features Party wall U-value Roof U-value 0.00 W/m²K Pass Pass W/m²K W/m²K	Maximum	0.7	Pass		
Overheating risk (South East England) Based on: Overshading Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 - Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 Divalue Slight Pass Average 4.12 m², No overhang 4.00 ach None Criterion 4 - Building performance consistent with DER and DFEE rate U-value Filled Cavity with Edge Sealing 3 Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 My/m²K Pass Party wall U-value Roof U-value 0.00 W/m²K W/m²K	Criterion 3 – Limiting the effects of heat gains in sum	mer			
Based on: Overshading Windows facing East Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing 0.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability Air permeability Air permeability at 50 pascals Maximum 10.0 Mym²K Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K W/m²K W/m²K	9 Summertime temperature				
Overshading Windows facing East Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type 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 Maximum 10.0 M³/(h.m²) @ 50 Pa Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K	Overheating risk (South East England)	Slight	Pass		
Windows facing East Windows facing West Air change rate Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type U-value Filled Cavity with Edge Sealing 0.00 W/m²K Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 Maximum 10.0 My/m²K Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K W/m²K	Based on:				
Windows facing West Air change rate Blinds/curtains None Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type 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 Maximum 10.0 M³/(h.m²) @ 50 Pa Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K	Overshading	Average			
Air change rate Blinds/curtains None Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type Filled Cavity with Edge Sealing 0.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 Maximum 10.0 Maximum 10.0 Mym²K Pass Pass 10 Key features Party wall U-value Roof U-value 0.11 W/m²K			7		
Blinds/curtains Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type Filled Cavity with Edge Sealing O.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 Maximum 10.0 Mi h.m²) @ 50 Pa Pass Party wall U-value Roof U-value O.00 W/m²K W/m²K W/m²K	Windows facing West	3.99 m², No overhang			
Criterion 4 – Building performance consistent with DER and DFEE rate Party Walls Type Filled Cavity with Edge Sealing O.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 M³/(h.m²) @ 50 Pa Pass 10 Key features Party wall U-value Roof U-value O.00 W/m²K W/m²K	Air change rate				
Party Walls Type Filled Cavity with Edge Sealing 0.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 m³/(h.m²) @ 50 Pa Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K W/m²K	Blinds/curtains	None			
Type Filled Cavity with Edge Sealing 0.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 M³/(h.m²) @ 50 Pa Pass 10 Key features Party wall U-value Roof U-value 0.00 W/m²K W/m²K	Criterion 4 – Building performance consistent with D	ER and DFEE rate			
Filled Cavity with Edge Sealing O.00 W/m²K Pass Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 m³/(h.m²) @ 50 Pa Pass 10 Key features Party wall U-value Roof U-value O.00 W/m²K W/m²K	Party Walls				
Air permeability and pressure testing 3 Air permeability Air permeability at 50 pascals Maximum 10.0 10.0 Maximum 10.0	Туре	U-value			
3 Air permeability Air permeability at 50 pascals 4.50 (design value) m³/(h.m²) @ 50 Pa Maximum 10.0 m³/(h.m²) @ 50 Pa Pass 10 Key features 0.00 W/m²K Roof U-value 0.11 W/m²K	Filled Cavity with Edge Sealing	0.00 W/m²K	Pass		
Air permeability at 50 pascals 4.50 (design value) m³/(h.m²) @ 50 Pa Maximum 10.0 m³/(h.m²) @ 50 Pa Pass 10 Key features 0.00 W/m²K Roof U-value 0.11 W/m²K	Air permeability and pressure testing				
Maximum 10.0 m³/(h.m²) @ 50 Pa Pass 10 Key features 0.00 W/m²K Roof U-value 0.11 W/m²K	3 Air permeability				
10 Key features Party wall U-value 0.00 W/m²K Roof U-value 0.11 W/m²K	Air permeability at 50 pascals	4.50 (design value) m ³ /(h.m ²) @ 50 Pa			
Party wall U-value 0.00 W/m²K Roof U-value 0.11 W/m²K	Maximum	10.0 m³/(h.m²) @ 50 Pa	Pass		
Roof U-value 0.11 W/m²K	10 Key features				
	Party wall U-value	0.00 W/m²K			
Thermal bridging v-value 0.036 W/m²K	Roof U-value 0.11 W/m²K				
.,	Thermal bridging y-value	0.036 W/m²K			

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Regs Region: England Elmhurst Energy Systems SAP2012 Calculator (Design System) version 4.11r11

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	£31	B 86	B 89	Recommended
Photovoltaic	£3,500 - £5,500	£338	A 95	A 97	Recommended
Wind turbine			0	0	Not applicable
Totals	£7,500 - £11,500	£369	A 95	A 97	



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