

BUILDING REGULATION COMPLIANCE

Calculation Type: New Build (As Designed)

Property Reference	000083		Issued on Date	17/02/2017	
Survey Reference	PV	Prop Type Ref			
Property	29, Main Street, Little Thetford, ELY, Cambridgeshire, CB6 3HA				
SAP Rating	85 B	DER	13.09	TER	24.17
Environmental	87 B	% DER<TER	45.84		
CO ₂ Emissions (t/year)	2.98	DFEE	56.77	TFEE	71.31
General Requirements Compliance	Pass	% DFEE<TFEE	20.40		
Surveyor	Paul Allen, Tel: 01525 717124			Surveyor ID	8075-0001
Client	AP Consulting Engineers LTD-, -				

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	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.17	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	13.09	kgCO ₂ /m ²	Pass
	-11.08 (-45.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	71.31	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	56.77	kWh/m ² /yr	
	-14.5 (-20.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.09 (max. 0.25)	0.09 (max. 0.70)	Pass
Roof	0.13 (max. 0.20)	0.13 (max. 0.35)	Pass
Openings	1.19 (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	3.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Heat pump with radiators or underfloor - Electric Daikin Altherma ERHQ008BV3 + EKHBH008B	
Secondary heating system	None	

5 Cylinder insulation

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Hot water storage

Primary pipework insulated

6 Controls

Space heating controls

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (East Anglia)

Based on:

Overshading

Windows facing North

Windows facing East

Windows facing South

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type W/m²K

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Floor U-value W/m²K

Door U-value W/m²K

Air permeability m³/m²h

Photovoltaic array