

BUILDING REGULATION COMPLIANCE

Calculation Type: New Build (As Designed)

Property Reference	S17212	Issued on Date	17/10/2017
Survey Reference	Original	Prop Type Ref	
Property	New Dwelling, Horseshoe Lane, Chadlington, OX7 3NB		
SAP Rating	82 B	DER	12.55
Environmental	87 B	TER	15.95
CO ₂ Emissions (t/year)	3.01	% DER<TER	21.33
General Requirements Compliance	Pass	DFEE	61.71
		TFEE	65.78
		% DFEE<TFEE	6.18
Surveyor	Malcolm Lisle, Tel: 01142521995	Surveyor ID	8227-0002
Client			

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)	15.95	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.55	kgCO ₂ /m ²	Pass
	-3.40 (-21.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	65.78	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	61.71	kWh/m ² /yr	
	-4.1 (-6.2%)	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)	0.20 (max. 0.70)	Pass
Floor	0.12 (max. 0.25)	0.13 (max. 0.70)	Pass
Roof	0.16 (max. 0.20)	0.18 (max. 0.35)	Pass
Openings	1.47 (max. 2.00)	1.60 (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

Main heating system	Boiler system with radiators or underfloor - Mains gas Data from database Ideal Logic System 15 Efficiency: 89.3% SEDBUK2009 Minimum: 88.0%	Pass
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Secondary heating system

Room heaters - Wood Pellets (in Bags)
Wood pellet Stove
Efficiency: 65%
Minimum: 65%

Pass

5 Cylinder insulation

Hot water storage

Nominal cylinder loss: 2.55 kWh/day
Permitted by DBSCG 2.86

Pass

Primary pipework insulated

Yes

Pass

6 Controls

Space heating controls

Time and temperature zone control

Pass

Hot water controls

Cylinderstat

Pass

Independent timer for DHW

Pass

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)

Not significant

Pass

Based on:

Overshading

Average

Windows facing North

2.52 m², No overhang

Windows facing East

2.82 m², No overhang

Windows facing South

3.14 m², No overhang

Windows facing West

33.18 m², No overhang

Air change rate

8.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

5.00 (design value)

Maximum

10.0

Pass

10 Key features

Floor U-value

0.12

W/m²K

Secondary heating (wood pellets (bags))

N/A

Secondary heating fuel:

wood pellets (bags)

Photovoltaic array

N/A