



elmhurst
energy



SAP Report Submission for Building Regulations Compliance

Client: Crossman Homes

Project: Masters Church
Kingswood, Bristol, BS15 1QU

Contact: Paul Short
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Report Issue Date: 03/02/2020

EXCELLENCE
IN ENERGY
ASSESSMENT

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)

Property Reference	000021	Issued on Date	03/02/2020
Assessment Reference	003	Prop Type Ref	Plot 01
Property	01, London Street, Kingswood, Bristol, BS15 1QU		
SAP Rating	83 B	DER	18.37
Environmental	85 B	TER	18.38
CO₂ Emissions (t/year)	1.48	% DER<TER	0.03
General Requirements Compliance	Pass	DFEE	53.97
		TFEE	57.72
		% DFEE<TFEE	6.50
Assessor Details	Mr. Paul Short, Paul Short, Tel: 01873 811909, Paul@eco-futures.co.uk	Assessor ID	M273-0001
Client	Crossman Homes, Crossman Homes		

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)	18.38	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.37	kgCO ₂ /m ²	Pass
	-0.01 (-0.1%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	57.72	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	53.97	kWh/m ² /yr	
	-3.7 (-6.4%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.24 (max. 0.30)	0.24 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.16 (max. 0.25)	0.20 (max. 0.70)	Pass
Roof	0.12 (max. 0.20)	0.16 (max. 0.35)	Pass
Openings	1.43 (max. 2.00)	1.70 (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	4.50 (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 COMBI ESP1 30 Combi boiler Efficiency: 89.6% SEDBUK2009 Minimum: 88.0%	Pass
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Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

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

Continuous extract system (decentralised)

Specific fan power

0.1900 0.2500 0.2400

Maximum

0.7

Pass

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

1.03 m², No overhang

Windows facing East

4.69 m², Overhang width less than twice window, ratio 1.07

Windows facing West

11.82 m², No overhang

Air change rate

8.00 ach

Blinds/curtains

Dark-coloured curtain or roller blind, closed 100% of daylight hours

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

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Roof U-value

0.11

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.