



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 | 000023 | Issued on Date | 03/02/2020 |
| Assessment Reference | 005 | Prop Type Ref | Plot 03 |
| Property | 03, London Street, Kingswood, Bristol, BS15 1QU | | |
| SAP Rating | 82 B | DER | 19.55 |
| Environmental | 85 B | TER | 19.67 |
| CO₂ Emissions (t/year) | 1.26 | % DER<TER | 0.60 |
| General Requirements Compliance | Pass | DFEE | 56.42 |
| | | TFEE | 58.95 |
| | | % DFEE<TFEE | 4.30 |
| 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) | 19.67 | kgCO ₂ /m ² | |
| Dwelling Carbon Dioxide Emission Rate (DER) | 19.55 | kgCO ₂ /m ² | Pass |
| | -0.12 (-0.6%) | kgCO ₂ /m ² | |

1b TFEE and DFEE

| | | | |
|--|--------------|------------------------|------|
| Target Fabric Energy Efficiency (TFEE) | 58.95 | kWh/m ² /yr | |
| Dwelling Fabric Energy Efficiency (DFEE) | 56.42 | kWh/m ² /yr | |
| | -2.6 (-4.4%) | 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 | 0.15 (max. 0.25) | 0.20 (max. 0.70) | Pass |
| Roof | 0.11 (max. 0.20) | 0.11 (max. 0.35) | Pass |
| Openings | 1.43 (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 COMBI ESP1 30 Combi boiler Efficiency: 89.6% SEDBUK2009 Minimum: 88.0% | Pass |
|---------------------|---|------|

BASIC COMPLIANCE REPORT

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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

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 East

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

Windows facing West

7.46 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

5.00 (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.