

# BUILDING REGULATION COMPLIANCE

## Calculation Type: New Build (As Built)

|                                    |                                                                              |                |             |
|------------------------------------|------------------------------------------------------------------------------|----------------|-------------|
| Property Reference                 | Z45990                                                                       | Issued on Date | 13/06/2022  |
| Assessment Reference               | Z45990                                                                       | Prop Type Ref  | Type A      |
| Property                           | 8 Gate Street, MANCHESTER, M11 2PG                                           |                |             |
| SAP Rating                         | 83 B                                                                         | DER            | 18.67       |
| Environmental                      | 85 B                                                                         | TER            | 19.15       |
| CO <sub>2</sub> Emissions (t/year) | 1.45                                                                         | % DER<TER      | 2.52        |
| General Requirements Compliance    | Pass                                                                         | DFEE           | 54.96       |
|                                    |                                                                              | TFEE           | 59.48       |
|                                    |                                                                              | % DFEE<TFEE    | 7.60        |
| Assessor Details                   | Mr. Paul Ahern, Paul Ahern, Tel: 01617621055, paul.ahern@energycouncil.co.uk |                | Assessor ID |
|                                    |                                                                              |                | T237-0001   |
| Client                             |                                                                              |                |             |

### SUMMARY FOR INPUT DATA FOR New Build (As Built)

#### 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)   | 19.15            | kgCO <sub>2</sub> /m <sup>2</sup> |      |
| Dwelling Carbon Dioxide Emission Rate (DER) | 18.67            | kgCO <sub>2</sub> /m <sup>2</sup> | Pass |
|                                             | -0.48 (-2.5%)    | kgCO <sub>2</sub> /m <sup>2</sup> |      |

##### 1b TFEE and DFEE

|                                          |              |                        |      |
|------------------------------------------|--------------|------------------------|------|
| Target Fabric Energy Efficiency (TFEE)   | 59.48        | kWh/m <sup>2</sup> /yr |      |
| Dwelling Fabric Energy Efficiency (DFEE) | 54.96        | kWh/m <sup>2</sup> /yr |      |
|                                          | -4.5 (-7.6%) | kWh/m <sup>2</sup> /yr | Pass |

#### Criterion 2 – Limits on design flexibility

##### Limiting Fabric Standards

##### 2 Fabric U-values

| Element       | Average          | Highest          |      |
|---------------|------------------|------------------|------|
| External wall | 0.20 (max. 0.30) | 0.20 (max. 0.70) | Pass |
| Party wall    | 0.00 (max. 0.20) | -                | Pass |
| Floor         | 0.12 (max. 0.25) | 0.12 (max. 0.70) | Pass |
| Roof          | 0.12 (max. 0.20) | 0.16 (max. 0.35) | Pass |
| Openings      | 1.35 (max. 2.00) | 1.40 (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 | 5.97 (measured in this dwelling) | m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa |      |
| Maximum                        | 10.0                             | m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa | Pass |

##### Limiting System Efficiencies

##### 4 Heating efficiency

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Main heating system

Boiler system with radiators or underfloor - Mains gas  
Data from database  
Potterton Assure 30 Combi  
Combi boiler  
Efficiency: 89.0% SEDBUK2009  
Minimum: 88.0%

Pass

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

0.1700 0.1400

Maximum

0.7

Pass

## Criterion 3 – Limiting the effects of heat gains in summer

### 9 Summertime temperature

Overheating risk (West Pennines (England))

Not significant

Pass

Based on:

Overshading

Average

Windows facing North

10.72 m<sup>2</sup>, No overhang

Windows facing South

3.73 m<sup>2</sup>, No overhang

Windows facing West

1.52 m<sup>2</sup>, No overhang

Air change rate

2.50 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

W/m<sup>2</sup>K

Pass

### Air permeability and pressure testing

#### 3 Air permeability

Air permeability at 50 pascals

5.97 (measured in this dwelling) m<sup>3</sup>/(h.m<sup>2</sup>) @ 50 Pa

Maximum

10.0 m<sup>3</sup>/(h.m<sup>2</sup>) @ 50 Pa

Pass

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### 10 Key features

|                    |      |                    |
|--------------------|------|--------------------|
| Party wall U-value | 0.00 | W/m <sup>2</sup> K |
| Roof U-value       | 0.09 | W/m <sup>2</sup> K |
| Floor U-value      | 0.12 | W/m <sup>2</sup> K |
| Door U-value       | 1.00 | W/m <sup>2</sup> K |

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