

# Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Array SAP 10 program, Array

Date: Mon 30 Oct 2023 12:23:46

| Project Information |              |                 |                   |
|---------------------|--------------|-----------------|-------------------|
| Assessed By         | Damian Selim | Building Type   | Flat, Mid-terrace |
| OCDEA Registration  | EES/022740   | Assessment Date | 2023-10-30        |

| Dwelling Details |   |                  |                   |
|------------------|---|------------------|-------------------|
| Assessment Type  | As designed                             | Total Floor Area | 69 m <sup>2</sup> |
| Site Reference   | Green Lanes 368 Flat B                  | Plot Reference   | Flat B            |
| Address          | 368 Flat B Green Lanes, London, N13 5PE |                  |                   |

| Client Details |  |
|----------------|--|
| Name           | Shuang Yun Building Contractor           |
| Company        | Shuang Yun Building Contractor           |
| Address        | 9-11 High Beech Road, Loughton, IG10 4BN |

| 1a Target emission rate and dwelling emission rate                       |   |      |
|--|---|------|
| Fuel for main heating system   | Electricity                             |      |
| Target carbon dioxide emission rate                                      | 10.59 kgCO <sub>2</sub> /m <sup>2</sup> |      |
| Dwelling carbon dioxide emission rate                                    | 8.17 kgCO <sub>2</sub> /m <sup>2</sup>  | OK   |
| 1b Target primary energy rate and dwelling primary energy                |   |      |
| Target primary energy  | 55.52 kWh <sub>PE</sub> /m <sup>2</sup> |      |
| Dwelling primary energy  | 85.47 kWh <sub>PE</sub> /m <sup>2</sup> | FAIL |
| 1c Target fabric energy efficiency and dwelling fabric energy efficiency |   |      |
| Target fabric energy efficiency  | 27.5 kWh/m <sup>2</sup>                 |      |
| Dwelling fabric energy efficiency  | 34.7 kWh/m <sup>2</sup>                 | FAIL |

| 2a Fabric U-values               |  |   |   |      |
|----------------------------------|--|---|---|------|
| Element                          | Maximum permitted average U-Value [W/m <sup>2</sup> K] | Dwelling average U-Value [W/m <sup>2</sup> K] | Element with highest individual U-Value |      |
| External walls                   | 0.26   | 0.18  | Walls (1) (0.18)                        | OK   |
| Party walls                      | 0.2  | 0   | Party Wall (1) (0)                      | N/A  |
| Curtain walls                    | 1.6  | 0   | N/A                                     | N/A  |
| Floors                           | 0.18   | N/A   | N/A                                     | N/A  |
| Roofs                            | 0.16   | 0.19  | Roof (1) (0.19)                         | FAIL |
| Windows, doors, and roof windows | 1.6  | 1.03  | Lounge/Bed 3 (1.1)                      | OK   |
| Rooflights                       | 2.2  | N/A   | N/A                                     | N/A  |

| 2b Envelope elements (better than typically expected values are flagged with a subsequent (!)) |                            |                              |  |
|--|----------------------------|------------------------------|--|
| Name   | Net area [m <sup>2</sup> ] | U-Value [W/m <sup>2</sup> K] |  |
| Exposed wall: Walls (1)  | 34.3525                    | 0.18                         |  |
| Party wall: Party Wall (1)   | 75                         | 0 (!)                        |  |
| Exposed roof: Roof (1)   | 5.4                        | 0.19                         |  |
| Exposed roof: Roof (2)   | 8.7                        | 0.19                         |  |

| 2c Openings (better than typically expected values are flagged with a subsequent (!)) |                        |             |              |                              |
|---|------------------------|-------------|--------------|------------------------------|
| Name  | Area [m <sup>2</sup> ] | Orientation | Frame factor | U-Value [W/m <sup>2</sup> K] |
| Lounge/Bed 3, Window  | 2.0475                 | West        | 0.7          | 1.1 (!)                      |
| Lounge/Bed 3, Window  | 2.0475                 | West        | 0.7          | 1.1 (!)                      |
| Lounge/Bed 3, Window  | 2.0475                 | West        | 0.7          | 1.1 (!)                      |
| Bed, Window   | 2.07                   | North       | 0.7          | 1.1 (!)                      |
| Bed, Window   | 2.52                   | East        | 0.7          | 1.1 (!)                      |
| Front Door, Solid Door  | 1.845                  | East        | N/A          | 0.6 (!)                      |

| 2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))           |
|---|
| Building part 1 - Main Dwelling: SAP default y-value (0.2 W/m <sup>2</sup> K) used for thermal bridging |

| 3 Air permeability (better than typically expected values are flagged with a subsequent (!)) |  |    |
|--|--|----|
| Maximum permitted air permeability at 50Pa   | 8 m <sup>3</sup> /hm <sup>2</sup>                |    |
| Dwelling air permeability at 50Pa  | 7 m <sup>3</sup> /hm <sup>2</sup> , Design value | OK |
| Air permeability test certificate reference  |  |    |

| 4 Space heating |
|-----------------|
|                 |

|   |                               |
|---|-------------------------------|
| <b>Main heating system 1: Boiler with radiators or underfloor heating - Electricity</b> |                               |
| Efficiency  | 100.0%                        |
| Emitter type  | Radiators                     |
| Flow temperature  |                               |
| System type   | Direct acting electric boiler |
| Manufacturer  |                               |
| Model   |                               |
| Commissioning   |                               |
| <b>Secondary heating system: N/A</b>  |                               |
| Fuel  | N/A                           |
| Efficiency  | N/A                           |
| Commissioning   |                               |

### 5 Hot water

|  |             |
|--|-------------|
| <b>Cylinder/store</b> - type: Cylinder |             |
| Capacity                               | 170 litres  |
| Declared heat loss                     | 1.2 kWh/day |
| Primary pipework insulated             | N/A         |
| Manufacturer                           |             |
| Model                                  |             |
| Commissioning                          |             |

### Waste water heat recovery system 1 - type: N/A

|              |  |
|--------------|--|
| Efficiency   |  |
| Manufacturer |  |
| Model        |  |

### 6 Controls

#### Main heating 1 - type: Time and temperature zone control by arrangement of plumbing and electrical services

|                 |  |
|-----------------|--|
| Function        |  |
| Ecodesign class |  |
| Manufacturer    |  |
| Model           |  |

#### Water heating - type: Cylinder thermostat

|              |  |
|--------------|--|
| Manufacturer |  |
| Model        |  |

### 7 Lighting

|  |         |    |
|--|---------|----|
| <i>Minimum permitted light source efficacy</i> | 75 lm/W |    |
| Lowest light source efficacy                   | 75 lm/W | OK |
| External lights control                        | N/A     |    |

### 8 Mechanical ventilation

#### System type: N/A

|   |     |     |
|---|-----|-----|
| <i>Maximum permitted specific fan power</i>       | N/A |     |
| Specific fan power                                | N/A | N/A |
| <i>Minimum permitted heat recovery efficiency</i> | N/A |     |
| Heat recovery efficiency                          | N/A | N/A |
| Manufacturer/Model                                |     |     |
| Commissioning                                     |     |     |

### 9 Local generation

N/A

### 10 Heat networks

N/A

### 11 Supporting documentary evidence

N/A

| 12 Declarations   |  |
|---|--|
| <b>a. Assessor Declaration</b>  |  |
| <p>This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design information submitted for this dwelling for the purpose of carrying out the "As designed" assessment, and that the supporting documentary evidence (SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required) has been reviewed in the course of preparing this BREL Compliance Report.</p> |  |
| <p>Signed: <i>D Selim</i></p> <p>Name: Damian Selim</p>   | <p>Assessor ID: L673</p> <p>Date: 30<sup>th</sup> October 2023</p> |
| <b>b. Client Declaration</b>  |  |
| N/A   |  |