



ABBEYCONSULTANTS

## Energy & Sustainability Statement

Woodfords

Shipley Road

Southwater

Horsham

West Sussex

Bellway Homes Limited (South London)

Report No: PA-ES-BHSL-SW-25-02

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## 1. PROJECT DETAILS

Type of Application	Reserved Matters Application
Project Name	Woodfords
Project Address	Woodfords, Shipley Road, Southwater, Horsham
Project Description	Reserved matters application for the erection of up to 73 No. dwellings, open space and child play provision, residential parking facilities and associated infrastructure, including access arrangements following outline application DC/21/1820, relating to layout, scale, appearance and landscaping.
Applicant	Bellway Homes Limited (South London)
Applicant's Address	1st Floor, Regent House, 1-3 Queensway, Redhill, Surrey, RH1 1QT
Architect	DHA Architecture Limited
Architect's Address	Brooklands Farm Business Park, Bottle Lane, Binfield, Berkshire, RG42 5QX
Report Prepared by	Mike Hassett
Author Position	Sustainability Consultant
Company	Abbey Consultants (Southern) Ltd
Address	2 Dronken House, 43A High Street, Kings Langley, WD4 8FG
Contact No	01923 274 427
Web Address	<a href="http://www.abbeyconsultants.co.uk">www.abbeyconsultants.co.uk</a>

Report Issue Number	Date	Reason	Author
01	05/09/25	For Issue	MH
02	14/10/25	Updated Site Layout	MH
03			

## 2. EXECUTIVE SUMMARY

### Introduction

This Energy & Sustainability Statement has been prepared by Abbey Consultants (Southern) Ltd on behalf of Bellway Homes Limited (South London) (the 'Applicant' hereafter) to accompany the submission of a planning application for the proposed development at Woodfords, Shipley Road, Southwater, Horsham (hereafter 'the site').

The proposal encompasses:

*"Reserved matters application for the erection of up to 73 No. dwellings, open space and child play provision, residential parking facilities and associated infrastructure, including access arrangements following outline application DC/21/1820, relating to layout, scale, appearance and landscaping."*

The site is located within the administrative boundaries of Horsham District Council and West Sussex County Council.

This report has been prepared in accordance with the requirements at both national and local level, as set out in the National Planning Policy Framework (2024) and the Horsham District Planning Framework (2015).

The report outlines the key features and strategies that will be adopted by the development team to enhance the energy and sustainability performance of the proposed development.

### Energy Strategy

The strategy for reducing energy use and associated carbon emissions through the design of the scheme follows the energy hierarchy of 'Be Lean', 'Be Clean and 'Be Green'.

The proposed development has been assessed using Elmhurst Energy's latest version of their Standard Assessment Procedure (SAP) software (Design SAP 10) which uses the SAP 10.2 methodology. This assessment has determined the Building Regulations Part L baseline, to which the scheme must comply with, and each stage of the energy hierarchy will be compared against.

Firstly, the energy demand is reduced at the 'Be Lean' stage of the energy hierarchy. This includes a set of energy efficiency measures, including the following:

- The thermal performance of the proposed fabric will exceed Part L (2021) minimum requirements in terms of U-values and air tightness.
- Orientation has been considered in the design of the façades to ensure energy use is balanced through daylight provision and thermal comfort.
- The detailed design will follow recognised construction details to ensure insulation continuity for minimising thermal bridging.
- Solar control glass will be utilised to ensure solar gains are balanced to lower the heat demand but also assist in mitigating the risk of overheating.
- Light fittings of low energy types will be specified throughout the scheme.

The 'Be Clean' stage of the energy strategy explores the potential for a district heat network to serve this scheme. However, this development proposal is deemed unsuitable for this type of heat network. Alternatively, individual heating systems have been specified for the dwellings.

The 'Be Green' stage of the energy hierarchy introduces low carbon energy supply systems to the houses in the form of individual air source heat pumps. These will efficiently supply the houses with space heating and hot water. The apartments will also benefit from heat pump technology in the form of domestic hot water heat pump, which will serve the apartment as a low carbon solution to supplying hot water. Although the proposed heating system will rely on electricity to provide power for the heat pumps, it will support the shift towards carbon neutrality. This is due to the ongoing decarbonisation of the electricity grid, meaning that grid electricity will eventually be generated solely through renewable sources. Therefore, this scheme will be less dependent on fossil fuels and will be future proofed against any future ban of gas heating.

The energy strategy also acknowledges the incoming Future Homes and Buildings Standard, however the details of this are yet to be finalised. When this scheme reaches detailed design stage, this energy strategy should be reviewed to ensure that the proposals make best use of the technology available at the time and are fully compliant with any updated regulatory requirements.

### Carbon Reductions

Through implementation of the energy strategy, the table below details the regulated carbon dioxide emissions and savings that are anticipated at each stage of the energy hierarchy.

**Table 1: Summary of CO<sub>2</sub> emissions savings**

Stage of Energy Hierarchy	Regulated CO <sub>2</sub> Emissions (tonnes/year)
Total Part L 2021 Baseline	87.95
Total After 'Be Lean'	86.61
Total After 'Be Green'	31.63
<b>Total Saving</b>	<b>56.32</b>
<b>Total Improvement</b>	<b>64%</b>

After all of the measures in the energy strategy have been accounted for, the proposed development achieves an overall on-site reduction of 64% in regulated carbon dioxide emissions over Part L 2021. This equates to an annual saving of an estimated 56.32 tonnes in regulated CO<sub>2</sub> emissions.

The energy strategy detailed herein is in accordance with the adopted planning policy requirements of Horsham District Council.

### Sustainability Strategy

The proposed strategy in relation to sustainable design and construction is detailed in Section 11.

The key sustainability measures incorporate into the development proposals are summarised below:

- A water calculation in accordance with Building Regulations Part G has been carried out and confirms that the proposed development will achieve a water consumption rate of 81.23 litres per person per day.
- In accordance with Natural England and Horsham District Council, the proposed development will achieve water neutrality through offsite offsetting measures as detailed in the Water Neutrality Statement prepared by Motion Consultants Limited, dated 22nd August 2025.
- A high quality construction and design specification will prioritise materials within 'A+', 'A' or 'B' ratings, and low embodied carbon materials selected wherever feasible using a whole life-cycle approach. Minimisation of waste and promotion of Circular Economy Measures into all aspects of design, construction and operation.
- Details the measures that will be introduced to help mitigate against the risk of overheating to the dwellings in the summer months.

### 3. INTRODUCTION

This report has been prepared by Abbey Consultants (Southern) Ltd, a specialist environmental and energy consultancy on behalf of Bellway Homes Limited (South London) in support of the planning application for the proposed development at Woodfords, Shipley Road, Southwater, Horsham.

Figure 1 below details the proposed site layout.

**Figure 1: Proposed Site Plan**



The site is 4.158ha and is located to the south of Southwater adjoining the settlement boundary, in Shipley Parish, to the East of Shipley Road. The site is formed of two fields dissected roughly in the middle by a row of trees and buildings associated with the existing equestrian use of the site. The site boundaries are formed by mature landscaping which provides a strong, verdant edge to the site and there is built form to the north and west of the site.

The site is located within the administrative boundaries of Havant Borough Council and Hampshire County Council.

Outline Planning Permission (Ref: DM/21/2180) was granted for this development on 11<sup>th</sup> July 2024. Outline Permission was granted for the erection of up to 73 new dwellings (up to 100% affordable housing) and retention of existing farmhouse building, associated public open space, landscaping, drainage and highway infrastructure works, including vehicular access from Shipley Road, with all matters reserved except for access.

In December 2024 an application had been submitted to Horsham District Council for a non-material amendment to the outline permission, whilst a Deed of Variation (DoV) application was also submitted in January 2025 to amend the legal agreement. This sought to revise the details of the approved water neutrality strategy from an offsite solution based on enhancements being delivered on the Saxon Weald estate to a solution which makes use of water neutrality credits being secured from the Woodsomes Farm site. This DoV is due to be signed imminently.

The proposed development for this Reserved Matters Applications is described as:

*“Reserved matters application for the erection of up to 73 No. dwellings, open space and child play provision, residential parking facilities and associated infrastructure, including access arrangements following outline application DC/21/1820, relating to layout, scale, appearance and landscaping.”*

The first section of this report details the proposed Energy Strategy for the development. This establishes a baseline assessment of the energy demands and associated CO<sub>2</sub> emissions for the development.

It then follows widely recognised Energy Hierarchy approach of Be Lean, Be Clean and Be Green to enable the maximum viable reductions in Regulated CO<sub>2</sub> emissions to be achieved.

1. Be Lean: use less energy and manage demand during operation through fabric and servicing improvements and the incorporation of flexibility measures;
2. Be Clean: exploit local energy resources and supply energy efficiently and cleanly by connecting to district heating networks;
3. Be Green: explore opportunities for renewable energy by producing, storing and/or using renewable energy on-site.

The second section of this report details the Sustainability Strategy. This covers the relevant aspects of sustainability relating to the Site, including mitigation measures against the effects of climate change.

The report takes into consideration the layout, use and requirements for the development to recommend a strategy that integrates the most suitable technologies available that are commercially viable, whilst also achieving compliance with all of the planning requirements which are applicable to this development.

## 4. PLANNING POLICY

An effective planning system is required to contribute to achieving sustainable development.

Sustainable development is defined as having the following three overarching objectives which are interdependent and need to be pursued in mutually supportive ways: an economic objective, a social objective, and an environmental objective.

1. Economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
2. Social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
3. Environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

### 4.1. NATIONAL PLANNING POLICY FRAMEWORK (NPPF) 2024

The NPPF sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans can provide for housing and other development in a sustainable manner. Preparing and maintaining up-to-date plans should be seen as a priority in meeting this objective.

#### **Chapter 14 Meeting the challenge of climate change, flooding and coastal change**

Paragraph 161. The planning system should support the transition to net zero by 2050 and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

Paragraph 162. Plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating and drought from rising temperatures. Policies should support appropriate measures to ensure the future health and resilience of communities and infrastructure to climate change impacts, such as providing space for physical protection measures, or making provision for the possible future relocation of vulnerable development and infrastructure.

Paragraph 163. The need to mitigate and adapt to climate change should also be considered in preparing and assessing planning applications, taking into account the full range of potential climate change impacts.

Paragraph 164. New development should be planned for in ways that:

- a. avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through incorporating green infrastructure and sustainable drainage systems; and
- b. help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards.

Paragraph 165. To help increase the use and supply of renewable and low carbon energy and heat, plans should:

- a. provide a positive strategy for energy from these sources, that maximises the potential for suitable development, and their future re-powering and life extension, while ensuring that adverse impacts are addressed appropriately (including cumulative landscape and visual impacts);

- b. consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and
- c. identify opportunities for development to draw its energy supply from decentralised, renewable, or low carbon energy supply systems and for co-locating potential heat customers and suppliers.

Paragraph 166. In determining planning applications, local planning authorities should expect new development to:

- a. comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and
- b. take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

Paragraph 167. Local planning authorities should also give significant weight to the need to support energy efficiency and low carbon heating improvements to existing buildings, both domestic and non-domestic (including through installation of heat pumps and solar panels where these do not already benefit from permitted development rights). Where the proposals would affect conservation areas, listed buildings or other relevant designated heritage assets, local planning authorities should also apply the policies set out in chapter 16 of this Framework.

Paragraph 168. When determining planning applications for renewable and low carbon developments and their associated infrastructure, local planning authorities should:

- a. not require applicants to demonstrate the overall need for renewable or low carbon energy, and give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal's contribution to a net zero future;
- b. recognise that small-scale and community-led projects provide a valuable contribution to cutting greenhouse gas emissions;
- c. in the case of applications for the repowering and life-extension of existing renewable sites, give significant weight to the benefits of utilising an established site.

Paragraph 169. Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.

## 4.2. LOCAL PLANNING POLICY

**Horsham District Council**  
**Horsham District Planning Framework**  
**Adopted January 2016**

On 27 November 2015 Horsham District Council adopted the Horsham District Planning Framework (HDPF). With the exception of land within the South Downs National Park, the HDPF replaces the policies contained in The Core Strategy and General Development Control Policies which were both adopted in 2007.

The HDPF sets out the planning strategy for the years up to 2031 to deliver the social, economic and environmental needs for the district (outside the South Downs National Park).

**Policy 35**  
**Climate Change**

Development will be supported where it makes a clear contribution to mitigating and adapting to the impacts of climate change and to meeting the district's carbon reduction targets as set out in the Council's Acting Together on Climate Change Strategy, 2009.

Measures which should be used to mitigate the effects of climate change include;

1. Reduced energy use in construction;

2. Improved energy efficiency in new developments, including influencing the behaviour of occupants to reduce energy use;
3. The use of decentralised, renewable and low carbon energy supply systems;
4. The use of patterns of development which reduce the need to travel, encourage walking and cycling and include good accessibility to public transport and other forms of sustainable transport; and
5. Measures which reduce the amount of biodegradable waste sent to landfill.

Development must be designed so that it can adapt to the impacts of climate change, reducing vulnerability, particularly in terms of flood risk, water supply and changes to the district's landscape. Developments should adapt to climate change using the following measures:

1. Provision of appropriate flood storage capacity in new building development;
2. Use of green infrastructure and dual use SuDS to help absorb heat, reduce surface water runoff, provide flood storage capacity and assist habitat migration;
3. Use of measures which promote the conservation of water and/or grey water recycling; and
4. Use of site layout, design measures and construction techniques that provide resilience to climate change (opportunities for natural ventilation and solar gain).

If it is not possible to incorporate the adaption and mitigation measures proposed, an explanation should be provided as to why this is the case.

### Policy 36

#### Strategic Policy: Appropriate Energy Use

##### *Energy hierarchy*

All development will be required to contribute to clean, efficient energy in Horsham based on the following hierarchy:

1. Lean – use less energy – e.g. through demand reduction
2. Clean – supply energy efficiently – e.g. through heat networks
3. Green – use renewable energy sources

##### *District Heating and Cooling*

Commercial and residential developments in Heat Priority Areas or the strategic development locations will be expected to connect to district heating networks where they exist using the following hierarchy, or incorporate the necessary infrastructure for connection to future network.

Development should demonstrate that the heating and cooling systems have been selected in accordance with the following heating and cooling hierarchy;

1. Connection to existing (C)CHP distribution networks
2. Site wide renewable (C)CHP
3. Site wide gas-fired (C)CHP
4. Site wide renewable community heating/cooling
5. Site wide gas-fired community heating/cooling
6. Individual building renewable heating

## 7. Individual building heating, with the exception of electric heating

All (C)CHP must be of a scale and operated to maximise the potential for carbon reduction. Where site-wide (C)CHP is proposed, consideration must be given to extending the network to adjacent sites.

### ***Energy Statements***

All applications for residential or commercial development must include an Energy Statement demonstrating and quantifying how the development will comply with the Energy Hierarchy.

Developments in Heat Priority Areas and strategic developments should demonstrate and quantify how the development will comply with the heating and cooling hierarchy. Horsham District Council will work proactively with applicants on major developments to ensure these requirements are met.

### ***Renewable energy schemes***

The Council will permit schemes for renewable energy (e.g. solar) where they do not have a significant adverse effect on landscape and townscape character, biodiversity, heritage or cultural assets or amenity value. Community initiatives which seek to deliver renewable and low carbon energy will be encouraged.

## **Policy 37**

### **Sustainable Construction**

Proposals must seek to improve the sustainability of development. To deliver sustainable design, development should incorporate the following measures where appropriate according to the type of development and location:

1. Maximise energy efficiency and integrate the use of decentralised, renewable and low carbon energy;
2. Limit water use to 110 litres/person/day;
3. Use design measures to minimise vulnerability to flooding and heatwave events;
4. Be designed to encourage the use of natural lighting and ventilation;
5. Be designed to encourage walking, cycling, cycle storage and accessibility to sustainable forms of transport;
6. Minimise construction and demolition waste and utilise recycled and low-impact materials;
7. Be flexible to allow future modification of use or layout, facilitating future adaptation, refurbishment and retrofitting;
8. Incorporate measures which enhance the biodiversity value of development.

All new development will be required to provide satisfactory arrangements for the storage of refuse and recyclable materials as an integral part of design.

New homes and workplaces should include the provision of high-speed broadband access and enable provision of future technologies where available.

### **Horsham District Council**

### **Horsham District Plan 2023-2040**

Horsham District Council submitted their latest Local Plan—covering the period 2023 to 2040—to the Secretary of State on 26 July 2024, following a six-week Regulation 19 representation period that ran from 19 January to 1 March 2024.

The examination hearings began in December 2024 but were paused by the Planning Inspector, with further sessions scheduled to resume between March and September 2025. The Planning Inspector issued an interim findings letter on 4 April 2025 recommending withdrawal of the Plan due to legal non-compliance. His main objections related to a failure of HDC to meet the Duty to Co-operate, an insufficient reliance on the

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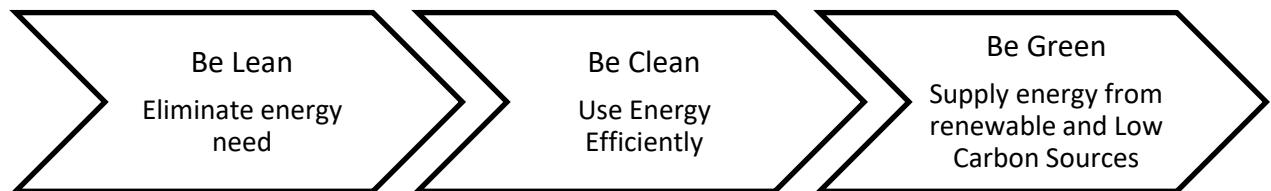
Sussex North Offsetting Water Scheme (SNOWS) for water neutrality and a housing shortfall including the removal of strategic options.

As of July 2025, the Council is reviewing the Inspector's initial findings and preparing a report for discussion on 23 July 2025, with Cabinet consideration set for 6 August 2025.

## 5. ENERGY ASSESSMENT

### 5.1. ENERGY HIERARCHY

The proposed energy strategy follows the established and widely accepted Energy Hierarchy of eliminate energy need (Be Lean), Use energy efficiently (Be Clean) and supply energy from renewable and low carbon sources (Be Green) to enable the maximum viable reductions in regulated and total CO<sub>2</sub> emissions over the baseline.



The proposed energy supply solutions aim to match energy profiles of the development ensuring effective use. The proposed solutions consider viability and flexibility of the scheme from both a technical and economic point of view by identifying best combination of energy efficiency measures as well as decentralised and renewable energy supply solutions.

Using these principles, the Applicant will deliver the following objectives:

- Comply with the relevant regulatory requirements.
- To reduce energy and CO<sub>2</sub> demand through fabric and energy efficiency measures.
- To propose to reduce energy consumption and carbon dioxide emissions further through the use of on-site renewable or low and zero carbon technologies (LZC).

### 5.2. ASSESSMENT METHODOLOGY

Elmhurst Energy software, which uses the Standard Assessment Procedure (SAP) 10.2 methodology to assess compliance with Part L1 2021, has been used to evaluate an initial CO<sub>2</sub> performance of representative residential dwellings. To assess energy performance of the entire residential development, an energy and carbon assessment model has been produced, which extrapolates the results of the SAP analysis using the floor area weighted average method detailed within Part L1 2021 to predict the energy consumption and CO<sub>2</sub> performance of the residential development.

Although the produced data detailed within this report provides estimations of possible energy and carbon performance of the development, it is not intended to be used as a detailed design tool.

### 5.3. ESTABLISHING THE BASELINE CO<sub>2</sub> EMISSIONS

In order to assess the energy demand and CO<sub>2</sub> performance of the proposed energy strategy, a baseline needs to be established. This section sets out the approach taken to calculating the baseline CO<sub>2</sub> emissions for the development.

The total baseline CO<sub>2</sub> emissions for the proposed development is defined as regulated CO<sub>2</sub> emissions, which is covered by Building Regulations Part L. Regulated CO<sub>2</sub> emissions are calculated from the CO<sub>2</sub> emissions associated with space heating, hot water and fixed electrical demands (for lights, fans and pumps).

Unregulated CO<sub>2</sub> emissions are those that are associated with appliances. Unregulated CO<sub>2</sub> emissions are not covered by Part L and are therefore not included as part of the assessment detailed within this energy strategy.

CO<sub>2</sub> Conversion Factors have been applied in accordance with the requirements of Building Regulations Part L 2021. These were detailed in the previous section of this report.

The residential baseline CO<sub>2</sub> performance is based on the Part L1 2021 Target Emission Rate (TER) performance of representative dwellings. The baseline CO<sub>2</sub> performance has been determined by carrying out SAP 10.2 modelling to establish the TERs of sample dwellings. The TER sets a minimum allowable standard for the energy performance of

a building and is defined by the annual CO<sub>2</sub> emissions of a notional building of the same type, size and shape to the proposed building. The specification of the notional building used to calculate the TER is defined within Building Regulations Part L 2021. The representative dwellings presented in the following table were used to carry out the SAP assessment.

**Table 2: Representative Sample SAP Dwellings**

Sample SAP Type Reference	No. of Units
2 Bed EF Flat	1
2 Bed GF Flat	4
2 Bed MF Flat	4
2 Bed TF Flat	5
The Baker Life (BAL) – 2B4P – M4(2) Mid Terrace	3
The Baker Life (BAL) – 2B4P – M4(2) Semi Detached	3
The SHR5 – 3B4P – Detached	3
The Draper – 5B – Detached	3
The SHR2 – 2B4P – Detached	4
The SHR1 – 2B4P – Mid Terrace	1
The SHR1 – 2B4P – Semi Detached	4
The SHR3 – 2B4P – Semi Detached	2
The SHR4 – 3B4P – Detached	1
The Ploughwright Life (PWL) – 3B5P + M4(2) – Detached	5
The SHR7 – 4B5P – Detached	6
The Tillman Life (TIL) – 3B5P + M4(2) – Semi Detached	4
The Watchmaker (WA) – 5B – Detached	6
The SHR6 – 3B4P – Detached	14
<b>TOTAL:</b>	<b>73</b>

The calculated TER of the representative dwellings can be found on the SAP sheets within the appendices. The TER results of the SAP assessments from the representative dwellings have been extrapolated using a Carbon Emissions Reporting Spreadsheet. This then determines the total baseline of the proposed development.

## 5.4. TOTAL BASELINE CO<sub>2</sub> EMISSIONS

The total baseline regulated CO<sub>2</sub> emissions for the development are summarised below.

**Table 3: Total Baseline CO<sub>2</sub> emissions**

Stage of Energy Hierarchy	Regulated CO <sub>2</sub> Emissions (tonnes/year)
Part L 2021 Baseline	87.95

## 6. DEMAND REDUCTION (BE LEAN)



In accordance with the Energy Hierarchy, the energy demands of the development should be reduced as much as practically viable, prior to considering low carbon or renewable measures.

A range passive design and active design measures to reduce CO<sub>2</sub> emissions and increase resilience to climate change are proposed. These proposals are detailed within the following sections.

### 6.1. PASSIVE DESIGN

Passive design measures, including optimising orientation and site layout, natural ventilation and lighting, thermal mass and solar shading have been integrated in the design.

#### 6.1.1. BUILDING ORIENTATION

Orientation varies across the proposed development. Orientation has been considered in the design of the façades to ensure energy use is balanced through daylight provision and thermal comfort.

#### 6.1.2. SOLAR GAIN AND DAYLIGHT

The make-up of the proposed façades has balanced proportion of solid wall to glazing, thus providing optimum amount of daylight and winter solar heating, while limiting excessive solar gains in the summer. Some external shading will be provided in the form of deep window reveals and balconies. These will be combined with high performance glass, which is proposed throughout the scheme for additional solar control.

#### 6.1.3. BUILDING FABRIC

To reduce demand for space heating, emphasis has been placed on providing a very high standard of fabric efficiency and reducing heat loss through the building envelope. Approved Document Part L 2021 sets out the limiting fabric parameters for each of the building elements. Each stated value represents the area-weighted average U-value. The following table details the proposed U-values to be used in the described exposed element within the fabric of the development. The proposed U-values will be achieved through use of high performance insulation.

**Table 4: Proposed Fabric Specification**

Element	Part L1 2021 Minimum Fabric Requirements	Proposed Specification
Ground Floor	0.18 W/m <sup>2</sup> K	0.12 W/m <sup>2</sup> K
Exposed Floor	0.18 W/m <sup>2</sup> K	0.15 W/m <sup>2</sup> K
External Wall	0.26 W/m <sup>2</sup> K	0.24 W/m <sup>2</sup> K
Communal Wall	0.26 W/m <sup>2</sup> K	0.26 W/m <sup>2</sup> K
Party Wall	0.20 W/m <sup>2</sup> K	0.00 W/m <sup>2</sup> K
Roof (cold roof)	0.16 W/m <sup>2</sup> K	0.09 W/m <sup>2</sup> K
Roof (sloping ceiling)	0.16 W/m <sup>2</sup> K	0.15 W/m <sup>2</sup> K
Roof (flat roof)	0.16 W/m <sup>2</sup> K	0.11 W/m <sup>2</sup> K
Windows	1.60 W/m <sup>2</sup> K	U = 1.30 W/m <sup>2</sup> K G = 0.45 BFRC Certificate
Entrance Doors	1.60 W/m <sup>2</sup> K	1.00-1.30 W/m <sup>2</sup> K

#### 6.1.4. THERMAL BRIDGING

Where applicable, recognised construction details for all wall junctions will be specified to minimise the effects of non-repeating thermal bridging and reduce heat loss further. By specifying and ensuring that approved construction details are designed into the build, CO<sub>2</sub> emissions can be greatly reduced. It is also proposed that the openings will have Hi-Therm lintels installed to maximise thermal efficiency and further reduce heat loss.

#### 6.1.5. AIR TIGHTNESS

High levels of air tightness are proposed for the buildings. The target for each residential dwelling will be set at 4.00m<sup>3</sup>/h/m<sup>2</sup>. This is a significant improvement upon the Part L 2021 minimum requirement of 8.00m<sup>3</sup>/h/m<sup>2</sup>. This means that air infiltration between the internal and external environment will be largely controlled and space heating demand further reduced.

### 6.2. ACTIVE DESIGN

After reducing the energy demand of the development, the next stage is to use energy efficient building services systems, low energy lighting and controls throughout the scheme to reduce energy consumption and the associated CO<sub>2</sub> emissions.

#### 6.2.1. SPACE HEATING AND HOT WATER

It is proposed that the dwellings will have their heating and hot water supplied through highly efficient individual air source heat pumps. These will be supplemented with highly insulated hot water cylinders to ensure that the heat loss per day is kept to a minimum, thereby using less energy and keeping carbon emissions reduced.

The apartments will have their heating supplied via direct acting electric panel heaters and their hot water supplied through domestic hot water heat pumps.

Due to the nature of the energy hierarchy being adhered to within this energy strategy, the CO<sub>2</sub> emissions improvements that are achieved as a result of heat pump technology should only be accounted for at the 'Be Green' stage of the energy hierarchy. This is because heat pumps are considered a renewable/low carbon energy source. Therefore, for the purpose of reporting the 'Be Lean' figures, the notional building system type will be used as specified in the Part L 2021 baseline.

#### 6.2.2. VENTILATION

The residential dwellings will utilise continuously running decentralised extract fans (system 3) to all wet rooms and kitchens. This will ensure the airtightness of the dwellings can be kept low, without compromising on the necessity for good ventilation.

#### 6.2.3. COOLING

It is currently assumed that the cooling requirements during the hot summer months will be met via openable windows/patio doors and mechanical ventilation with enhanced ventilation rates (where applicable). The development will be subject to an overheating assessment which will be carried out at the detailed design stage, whereby the overheating mitigation strategy will be finalised.

#### 6.2.4. LIGHTING

The proposed windows aim to maximise daylight to minimise the need for artificial lighting. The electricity consumption associated with lighting will be further reduced by effectively controlling the lighting systems by:

- Using energy efficient lamps and luminaires. Low energy lamps and LED's are proposed throughout.
- Lighting controls (e.g. PIR sensors) will be provided in communal areas to reduce energy consumption.
- Having appropriately commissioned lighting systems.

#### 6.2.5. SMART CONTROLS & ENERGY METERING

It is expected that the dwellings will be provided with an individual, programmable, zoned, control system, together with smart energy meters.

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This will allow the display of energy use within individual units as required, assisting occupants to understand the way in which they consume energy and how much it costs. This will encourage them to turn off non-essential equipment or run equipment at a lower capacity during times of peak demand.

### 6.3. CO<sub>2</sub> SAVINGS AFTER 'BE LEAN' MEASURES

After implementing all the passive and active energy efficiency measures for the 'Be Lean' stage of the energy hierarchy, the regulated carbon dioxide emissions for the proposed development are reduced by 2%. The total 'Be Lean' CO<sub>2</sub> emissions have been summarised below and compared against the baseline figure.

**Table 5: Total 'Be Lean' CO<sub>2</sub> emissions**

Stage of Energy Hierarchy	Regulated CO <sub>2</sub> Emissions (tonnes/year)
Total Part L 2021 Baseline	87.95
Total After 'Be Lean'	86.61
<b>Total Saving</b>	<b>1.34</b>
<b>Total Improvement</b>	<b>2%</b>

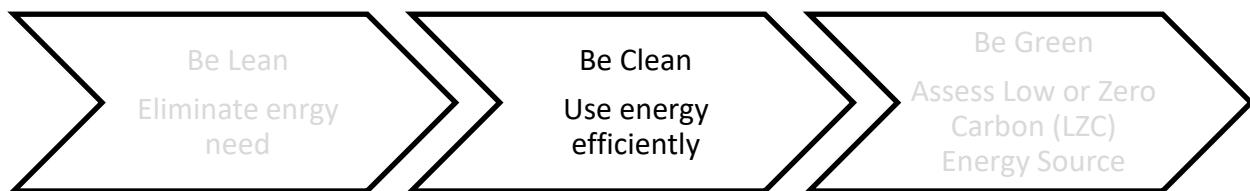
The Target Fabric Energy Efficiency rate is the minimum energy performance requirement, as stipulated by Building Regulations Part L1 2021, for all new residential dwellings. It is expressed as the amount of energy demand in units of kilowatt-hours per square metre of floor area per year. This performance metric is influenced by the fabric only, which is why it can be reported at this stage of the energy hierarchy.

The energy strategy has reduced energy demand through fabric and energy efficiency measures. The demand has been shown to have been reduced by an average of 6%, as detailed in the table below.

**Table 6: FEE Performance**

Element	Target Fabric Energy Efficiency (TFEE) kWh/m <sup>2</sup> /year	Dwelling Fabric Energy Efficiency (DFEE) kWh/m <sup>2</sup> /year	Improvement (%)
Site Wide Average	37.69	35.35	6%

## 7. SUPPLY ENERGY EFFICIENTLY (BE CLEAN)



Decentralised energy refers to energy that is generated off the main grid. This may include micro-renewables, heating and cooling. It can also refer to energy from waste plants, combined heat and power, district heating and cooling, as well as geothermal, biomass or solar energy. Decentralised Energy schemes can serve a single building or a whole community, even being built out across entire cities.

The heat source for the communal heating system should be selected in accordance with the following heating hierarchy:

1. Connect to local or existing planned heat networks
  - a. Use zero-emission or local secondary heat sources (in conjunction with heat pump, if required)
  - b. Use low-emission combined heat and power (CHP) (only where there is a case for CHP to enable the delivery of an area-wide heat network)
  - c. Use ultra-low NOx gas boilers
2. CHP and ultra-low NOx gas boiler communal or district heating systems should be designed to ensure that they meet the relevant planning policy requirements.
3. Where a heat network is planned but not yet in existence the development should be designed for connection at a later date.

There are many benefits of decentralised heat generation and Combined Heat and Power (CHP) in terms of cost and CO<sub>2</sub> emissions savings. However, technology such as this is more significant for larger developments. The proposed development size of 73 dwellings is at the lower end of what the industry tends to view as viable for such systems. The development is for residential only and this will result in 'peaky' thermal demands with little anchor load to enable efficient operation of gas fired CHP. This option also risks the potential to increase costs to residents.

The site is neither sufficiently dense nor large enough to warrant investment from 3rd party managing agents or Energy Supply Companies (ESCos). The proposed development would need to be run by an independent agent/company and there would be very little if any interest among existing ESCos in servicing such a small-scale system. Even if it was possible, the cost of managing fuel procurement, customer billing, operation and maintenance would lead to disproportionately and unnecessary high service charges to residents compared to the provision of heat from individual heating sources.

Based on the anticipated timescale of the proposed development and the predicted trajectory of the national electricity grid decarbonisation, the development of a district heat network powered by fossil fuels is also not considered to be the most carbon efficient approach.

The incorporation of a gas fired combined heat and power (CHP) network will lock the development into relatively carbon intensive gas-fired heating and hot water technology and will not facilitate the transition to less carbon intensive solutions.

## 8. RENEWABLE ENERGY (BE GREEN)



The following low and zero carbon technologies have been considered for this scheme:

- Air Source Heat Pump (ASHP)
- Domestic Hot Water Heat Pumps
- Photovoltaic Panels (PV)
- Ground Source Heat Pump (GSHP)
- Wind Turbines
- Biomass Boiler
- Solar Thermal

The assessment has shown that individual air source heat pumps and domestic hot water heat pumps are considered to be the most suitable renewable/low carbon energy solutions for this development.

All other renewable energy technology options are summarised in the appendices and have, at this stage, been deemed as not appropriate for this development.

### 8.1. AIR SOURCE HEAT PUMPS (ASHP)

Air at any temperature above absolute zero contains some energy. An air source heat pump transfers some of this energy as heat from one place to another, for example, between the outside and inside of a building. This can provide space heating and hot water. A system can be designed to transfer heat in either direction, to heat or cool the interior of the building in winter and summer respectively. For simplicity, the description below focuses on use for interior heating.

The technology is similar to a refrigerator/freezer or air conditioning unit. The different effect is due to the physical location of the different system components. Just as the pipes on the back of a refrigerator become warm as the interior cools, so an ASHP warms the inside of a building whilst cooling the outside air.

The main components of an ASHP are:

- An outdoor heat exchanger coil, which extracts heat from ambient air.
- An indoor heat exchanger coil, which transfers the heat into hot air ducts, an indoor heating system such as water-filled radiators or underfloor circuits and a domestic hot water tank.

Some of the key advantages of ASHPs are listed below:

- ASHPs save carbon emissions. Unlike burning oil, gas, LPG or biomass, a heat pump produces no carbon emissions on-site (and no carbon emissions at all, if a renewable energy source is used to power them).
- They save space. There are no fuel storage requirements.
- They require less maintenance than combustion-based heating systems.
- Heat pumps can provide cooling in summer, as well as heating in winter.
- There is no combustion involved and no direct emission of harmful gases.

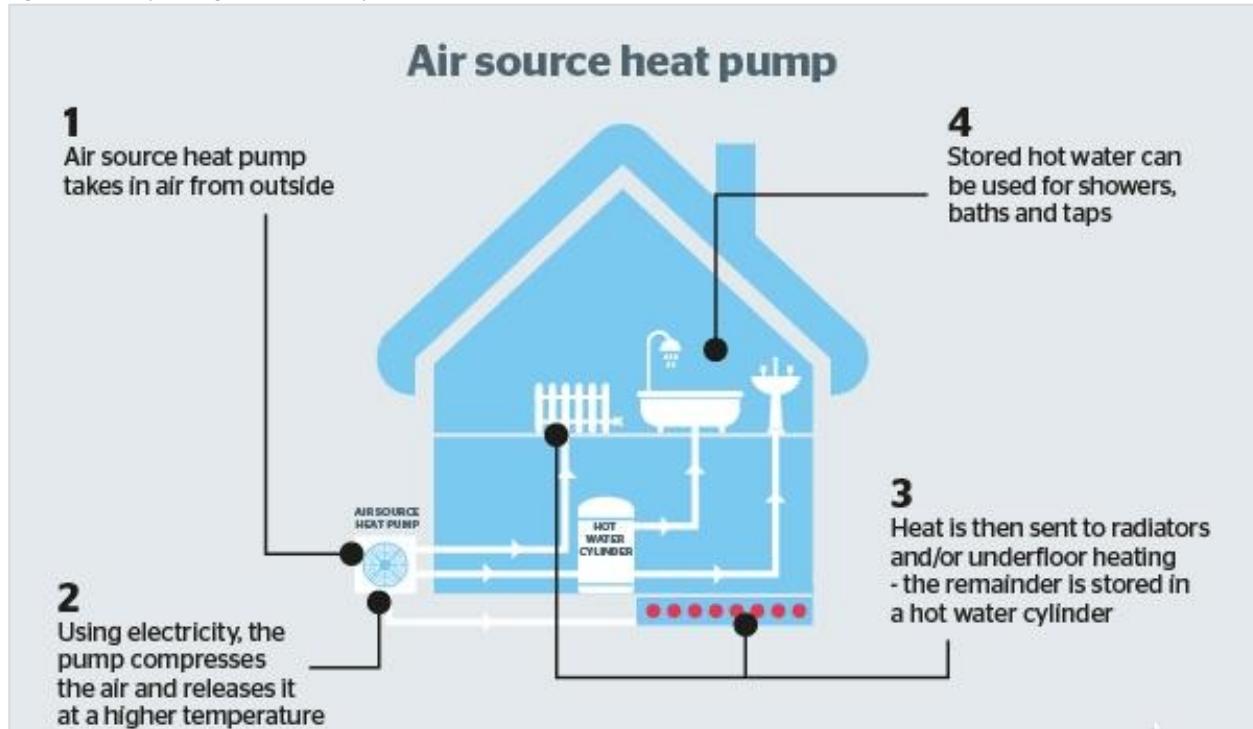
The use of individual Air Source Heat Pumps (ASHP) is proposed for this development to efficiently supply the houses with space heating and hot water. The ASHP are to be discreetly located within the boundary of each plot. Highly insulated hot water cylinders will be installed in conjunction with the ASHPs as part of the heating system of each dwelling.

ASHPs will require electricity to operate, however this electricity can be supplied by renewable sources. This will future proof the home against the decarbonisation of the electricity grid.

A datasheet for the ASHP specified within the sample SAP calculations has been included within the appendices. The full design of this system will be further developed during the detailed design stage.

The figure below demonstrates the typical operation of an ASHP system used to supply space heating and hot water to a property.

Figure 2: Example diagram of ASHP System



## 8.2. VAILLANT AROSTOR DOMESTIC HOT WATER HEAT PUMP

Incredibly efficient and sustainable, aroSTOR uses thermal energy to heat hot water collected via an external air duct or it can be recycle hot air from within the room where it's installed. The only other energy needed is the electricity to run the appliance.

aroSTOR heat pumps use only R290 natural refrigerant, which is used widely in household appliances such as domestic fridge freezers. With R290, aroSTOR gives excellent performance for water heating as it can deliver 60° in the cylinder without any need for a back-up heater, whilst still providing strong efficiency levels.

Some of the features and benefits of the aroSTOR hot water heat pump are listed below:

- Flexible siting options – a small footprint and range of 360° air duct accessories offers flexible options for siting of the appliance.
- Highly energy efficient and reliable – gives high COP of >3.19 and best possible ErP label of A+.
- Controls – comes with integrated control.
- High quality material and components – stainless steel tank comes with a five year warranty (two years for other components).
- Extremely quiet operation – advanced insulation and use of rubber on the compressor for quiet operation.
- Hot water on demand – self-managing hot water comfort with electrical back up heater for hot water boost (and Legionella protection).

The use of the Vaillant aroSTOR (200 litre) is proposed for the apartments on this development to efficiently supply their hot water demand. The space heating for the apartments will be supplied through the use of electric panel heaters.

Although the electric panel heaters and aroSTOR heat pumps will require electricity to operate, the shift towards carbon neutrality will mean the electricity can eventually be generated solely through renewable sources. Therefore, there is less dependence on fossil fuels and this will future proof the homes against the ongoing decarbonisation of the electricity grid.

**Figure 3: Diagram of the Vaillant aroSTOR**



### 8.3. SUMMARY OF PROPOSED BUILDING SERVICES

The building services and systems to be employed within the dwellings are summarised in the following table.

**Table 7: Summary of Proposed Building Services for the houses**

Building Service Element	Specification
<b>Heating:</b>	Air Source Heat Pumps Vaillant aroTHERM plus range (appropriate heat pump to be selected based on size of each property)
<b>Heating Emitter:</b>	Radiators
<b>Secondary Heating:</b>	None
<b>Heating Hot Water Controls:</b>	Time and Temperature Zone Control Delayed Start Stat No Weather Compensation
<b>Cylinder:</b>	Hot water cylinder (capacity to be confirmed)
<b>Heat Loss:</b>	1.0 – 1.6 kWh/24 Hr
<b>Mechanical Ventilation:</b>	Mechanical Ventilation System 3 dMEV fans to wet rooms and kitchens
<b>Waste Water Heat Recovery:</b>	None
<b>Showers:</b>	Flow rate – 8 litres per minute

**Table 8: Summary of Building Services for the apartments**

Building Service Element	Specification
<b>Heating:</b>	Electric Panel Heaters
<b>Hot Water:</b>	Vaillant aroSTOR (200 litre) domestic hot water heat pump
<b>Heating Hot Water Controls:</b>	Time and Temperature Zone Control Delayed Start Stat No Weather Compensation
<b>Mechanical Ventilation:</b>	Mechanical Ventilation System 3 dMEV fans to wet rooms and kitchens
<b>Showers:</b>	Flow rate – 8 litres per minute

## 8.4. CO<sub>2</sub> SAVINGS AFTER 'BE GREEN' MEASURES

The following table presents the carbon savings achieved after the 'Be Green' stage of the energy hierarchy. This shows that a 64% improvement is achieved in comparison to the Building Regulations Part L baseline.

Table 9: Total 'Be Green' CO<sub>2</sub> emissions

Stage of Energy Hierarchy	Regulated CO <sub>2</sub> Emissions (tonnes/year)
Total Part L 2021 Baseline	87.95
Total After 'Be Lean'	86.61
Total After 'Be Green'	31.63
<b>Total Saving</b>	<b>56.32</b>
<b>Total Improvement</b>	<b>64%</b>

## 9. FUTURE HOMES & BUILDINGS STANDARD

The Future Homes Standard, renamed the Future Homes and Buildings Standard in December 2021, will complement the Building Regulations. When the Future Homes and Buildings Standard comes into effect, it will aim to reduce carbon emissions by 75-80% compared with homes delivered under the old regulations.

A timeframe for the Future Homes and Buildings Standard is yet to be agreed and finalised.

The Home Energy Model will be used in the Future Homes Standard assessment to demonstrate that new dwellings comply with the Future Homes Standard.

It will replace the SAP calculations currently used to assess the EPC (energy performance certificate) ratings.

The Home Energy Model is still under development but will be introduced with the finalised Future Homes and Buildings Standard.

It is possible that due to the anticipated construction programme of the proposed development, the dwellings may be built after the Future Homes and Buildings Standard comes into effect. The construction specifications will therefore need to be reviewed as the programme progresses to ensure that all dwellings remain compliant with the relevant regulatory requirements. It may be necessary for some specification upgrades, although it is unclear exactly what will be required until the standard is published.

This energy strategy has been developed using the assessment tools that are currently available and demonstrates full compliance with the current Building Regulations requirements, and the requirements of Horsham District Council. The energy strategy detailed herein should be reviewed when the scheme reaches detailed design to ensure that the proposals make best use of the technology available at the time, and are fully compliant with any updated regulatory requirements.

## 10. ENERGY STRATEGY SUMMARY AND CONCLUSIONS

The energy strategy has followed the energy hierarchy of 'Be Lean', 'Be Clean' and 'Be Green'. The energy strategy proposed for the development has been summarised as below.

**Table 10: Proposed Energy Strategy**

Element	Measure
Passive	Optimised design to enable controlled solar gain and improved direct and indirect natural lighting.
Fabric	Building fabric U values have been enhanced over and above those detailed with Part L 2021
Heating	Houses – Individual Air Source Heat Pumps Apartments – Electric Panel Heaters
Hot Water	Houses – Hot Water Cylinders (water heated via ASHP) Apartments – Vaillant aroSTOR Domestic Hot Water Heat Pump
Ventilation	Low design air permeability (DAP) Mechanical extract ventilation (system 3)
Lighting	Energy efficient LED Lighting where applicable
Low and Zero Carbon Technology	Heat pump technology to be deployed (as detailed above)

### 10.1. TOTAL CO<sub>2</sub> SAVINGS

The summary of the overall reduction in residential CO<sub>2</sub> emissions after each stage of the energy hierarchy is summarised in the table below.

**Table 11: Energy Strategy Carbon Emissions Summary**

Stage of Energy Hierarchy	Regulated CO <sub>2</sub> Emissions (tonnes/year)
Total Part L 2021 Baseline	87.95
Total After 'Be Lean'	86.61
Total After 'Be Green'	31.63
<b>Total Saving</b>	<b>56.32</b>
<b>Total Improvement</b>	<b>64%</b>

The proposed energy strategy achieves and meets the following requirements:

- Complies with all of the main compliance criteria required by Part L 2021 of the Building Regulations.
- Includes improved optimal building fabric improvements, energy efficient design of building services.
- The fabric energy efficiency (DFEE) achieves a 6% reduction over the minimum standards defined by Building Regulations Part L1 2021 (TFEE).
- Low carbon energy supply systems are to be utilised in the form of heat pump technology, which is to be used throughout the development. This is in accordance with the requirements of the Horsham District Planning Framework (November 2015) Policy 35.
- Estimated to annually reduce 56.32 tonnes of regulated CO<sub>2</sub> emissions compared to the Building Regulations Part L 2021 baseline.
- Achieves an overall reduction in regulated CO<sub>2</sub> emissions of 64% compared with the Building Regulations Part L 2021 baseline.

## 11. SUSTAINABILITY STRATEGY

### 11.1. MATERIALS & WASTE

The selection of materials is determined by a number of factors, such as architectural context, design rationale, carbon embodiment and maintenance requirements. The proposed development will concentrate on sustainable design, with materials to be selected in line with local vernacular and landscape character.

The BRE Green Guide to Specification is a simple guide for design professionals. The guide provides environmental impact, cost and replacement interval information for a wide range of commonly used building specifications over a notional 60-year building life. The construction specification will prioritise materials within ratings A+, A or B. Preference will be given to the use of local materials & suppliers where viable to reduce the transport distances and to support the local economy.

Wherever feasible, there will be a commitment to using materials that are also from renewable sources and recycled e.g. secondary aggregates. The use of recycled materials (e.g. crushed concrete from waste used for hard-standing or recycled fibreglass insulation) has zero embodied energy impact, other than that expended in their processing or transport.

Timber would be sourced, where practical, certified by FSC, PEFC or an equivalent approved certification body and all site timber used within the construction process would be recycled.

All insulation materials will have a zero-ozone depleting potential.

Construction Waste will be managed during both the construction and operational phases according to the waste hierarchy detailed below.

**Figure 4: Waste Hierarchy**

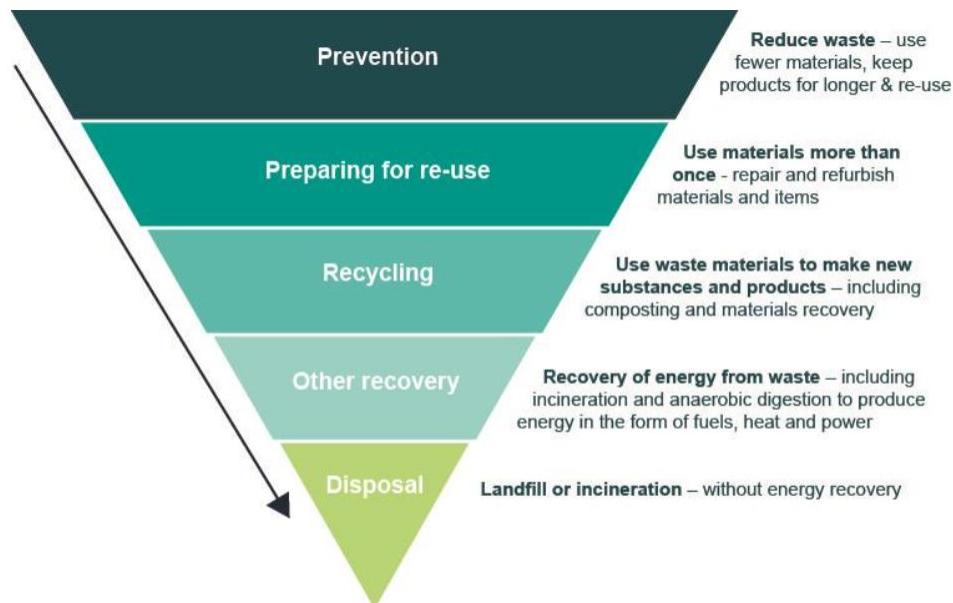


Figure 4.1: The Waste Hierarchy, Defra 2011

#### Step 1: Eliminate Waste

Construction practice and design should reduce waste wherever possible through measures including:

- Efficient procurement avoiding over-supply and excessive packaging; and
- Eliminating waste at the design stage.

**Step 2: Reuse waste materials**

Reuse waste materials, ideally in its current location, avoiding the energy costs associate with transport and recycling.

**Step 3: Recycle/compost waste materials**

Recover materials through recycling and substitute for primary materials. Compost organic material to produce rich soils that replace fertilisers, ideally in a closed system to avoid the emissions released by organic material in landfill.

**Step 4: Recover energy**

If it cannot be reused or recycled, use waste instead of fossil fuels in energy generation to recover embodied energy.

**Step 5: Disposal to landfill**

Usually the last resort. Disposal to landfill wastes materials and embodied energy.

Construction operations generate waste materials as a result of general handling losses and surpluses. These wastes can be reduced through appropriate selection of the construction method, good site management practices and spotting opportunities to avoid creating unnecessary waste.

Targets will be set to promote resource efficiency in accordance with guidance from WRAP, Envirowise, BRE and DEFRA.

During the construction phase, the principal contractor, will be required to implement the Site Waste Management Plan (SWMP) which will detail responsibilities for resource management, what types of waste will be generated, how the waste will be managed (e.g. reduced, reused or recycled), which contractors will be used and how the quantity of waste generated by the project will be measured. It will also cover handling and storage of materials to avoid damage, efficient purchasing arrangements to minimise over ordering and segregation of construction waste to maximise potential for reuse/recycling.

The development will be constructed using industry leading procedures for the on-site segregation of waste products and will look to segregate waste under following categories:

- Mixed Waste
- Light mixed and compatible
- Inert
- Timber
- Plasterboard
- Mixed Metals
- Hazardous
- Other

A designated area will be identified for waste management for each phase and clear signage will be provided to ensure correct segregation of waste.

Waste will be minimised using the following techniques:

- Managing materials efficiently
- Consideration taken for build dimensions to avoid cut bricks, offcuts plasterboard etc.
- Mass balancing exercise will be undertaken to retain as much material on site as possible therefore minimising waste to landfill
- Site layout and programme reviewed to maximise the reuse of site won materials
- Any demolition concrete waste will be crushed and re-used on site for hardcore

- Suppliers will be responsible for their own removal of packaging

Management reports will be produced at an agreed period where actual recycling quantities achieved will be reviewed against targets set.

#### 11.1.1. CIRCULAR ECONOMY

A circular economy is a model of production and consumption, which is based on the reuse and regeneration of materials or products, especially as a means of continuing production in a sustainable and environmentally friendly way.

New buildings on the site will follow best practice principles in their design and construction with the overarching aims of reducing material usage, minimising waste and embedding longevity, flexibility and adaptability. Advances in innovation and best practice over the phased delivery with effective feedback loop mechanisms are expected to lead to continuous improvement as the design and construction develops. The construction of this new development will allow the energy and operational efficiency of the building to be optimised without the fabric constraints of an unsuitable existing building.

The Site Waste Management Plan will identify targets for:

- Managing construction site waste and monitoring the amount of waste generated
- Minimising waste diverted to landfill
- Maximising the use of recycled/reused/reclaimed materials for construction (where practicable)
- Using efficient design practices to minimise the quantity of materials required for construction

A project specific Waste Management Strategy will be developed for the operation of the development (post-construction) making all the necessary allowances to ensure that waste arisings can be accommodated under a full occupancy scenario. The strategy will consider the flow of waste from waste generator (i.e. residents/tenants) through to storage and collection. The Waste Management Strategy will consider the potential impacts that may arise from waste generated during the operational phase, with the overall aim of developing a strategy for legislative compliance and good practice in the separation, storage, and collection of waste arising.

#### 11.1.2. EMBODIED CARBON

Embodied Carbon can be defined as the carbon emissions associated with the extraction and processing of materials and the energy and water consumption used by the factory in producing products and constructing the building. It also includes the 'in-use' stage (maintenance, replacement, and emissions associated with refrigerant leakage) and 'end of life' stage (demolition, disassembly, and disposal of any parts of product or building) and any transportation relating to the above.

Carbon dioxide and other greenhouses gases relating to Embodied Carbon are associated with the following stages:

- Product: extraction and processing of materials, energy and water consumption used by the factory and transport of materials and products.
- Construction: building the development.
- In-use: maintenance, repair, refurbishment, replacement and emissions associated with refrigerant leakage.
- End of life: demolition, disassembly waste processing and disposal of any parts of product or building and any transportation relating to the above.

The following primary actions in reducing embodied carbon have been considered for the development proposal:

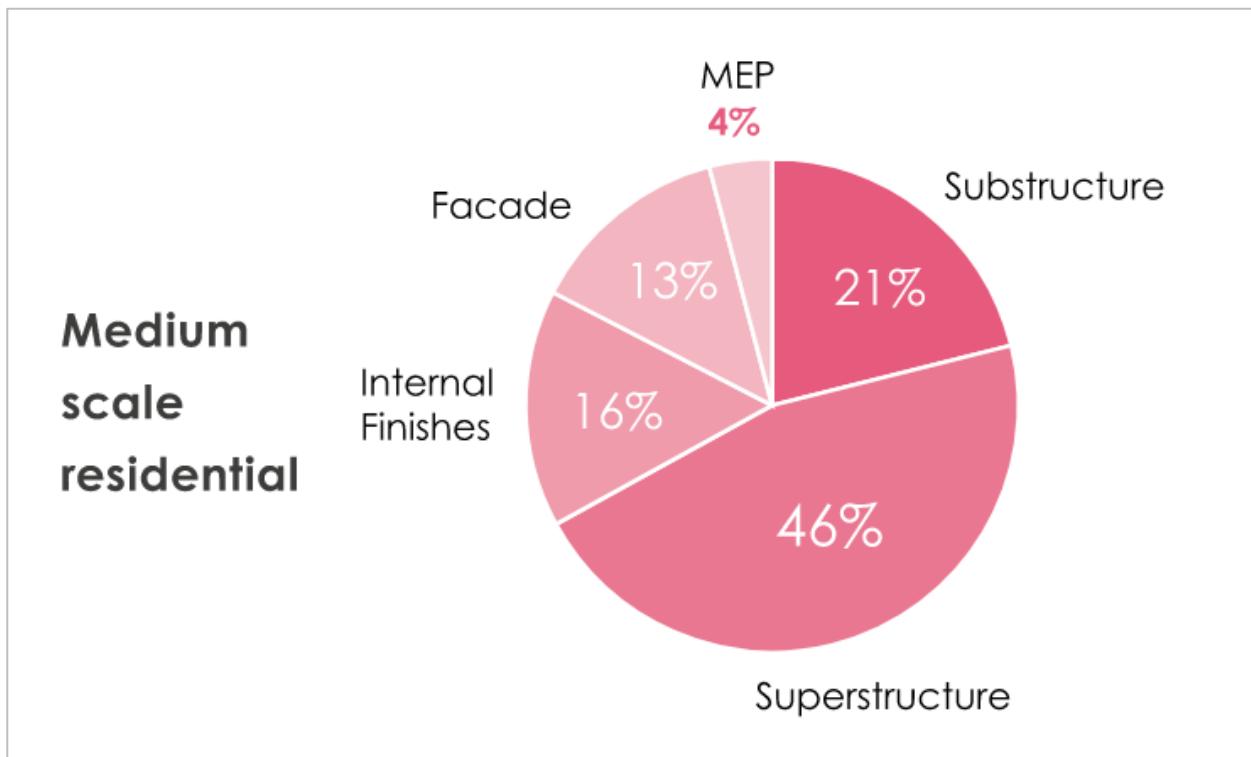
1. Build less: Refurb and re-use.
2. Build light: Consider the building structure.
3. Build wise: Longevity and local context.
4. Build low carbon: Review material specifications.

5. Build for the future: Assess end of life and adaptability.
6. Build collaboratively: Involve the whole team.

The LETI Climate Emergency Design Guide (January 2020) goes on to detail a number of reduction measures of embodied carbon by element. This development proposal seeks to include these reduction measures where practically possible.

The figure below details the relative proportions of embodied carbon by building element (for medium scale residential).

**Figure 5: Relative Proportions of Embodied Carbon by Building Element**



## 11.2. WATER NEUTRALITY

Following the issue of Natural England's Position Statement on Water Neutrality within the Sussex North Water Supply Zone (SNWSZ), Horsham District Council require all new and reserved matter planning applications to demonstrate that the development is water neutral and/or that they do not result in a significant effect.

As a result of the above, a Water Neutrality Statement has been prepared by Motion Consultants Limited, dated 22nd August 2025.

### 11.2.1. WATER REDUCTION MEASURES

To minimise the water use of the development water efficient fixtures and fittings will be incorporated, which will reduce water consumption to less than is required by Building Regulations (limit of 125 litres per person per day).

A water calculation in accordance with Building Regulations Part G has been carried out and confirms that the proposed development will achieve a water consumption rate of 81.23 litres per person per day, which includes an allowance of 5 litres per person per day for external water usage.

The following table sets out the water uses, as detailed in the Part G calculation.

**Table 12: Water Calculations**

	Total Water Usage (l/p/day)
WC (full flush)	5.84
WC (part flush)	5.92
Taps (Excluding Kitchen)	6.32
Bath	14.30
Shower	26.22
Kitchen Taps	12.12
Washing Machine	10.31
Dishwasher	2.74
<b>Total</b>	<b>83.77</b>
Normalisation Factor	0.91
<b>Total</b>	<b>76.23</b>
External Water Use	5.00
<b>Total</b>	<b>81.23</b>

### 11.2.2. ACHIEVING WATER NEUTRALITY

Using the Part G water consumption figure of 81.23 litres per person per day and a population size of 169.94 it is estimated that the total water usage per day for the proposed development would be reduced to 13,803.88 litres per day (169.94x81.23).

To ensure the development can demonstrate water neutrality in accordance with the NE Position Statement 13,803.88 litres per day will need to be offset.

The Applicant is proposing to offset the development against an offsetting scheme at Woodsomes Farm and the Brickworks, Lynwick Street, Rudgwick, Horsham, RH12 3DL. This is located within the SNWSZ.

Woodsomes Farm and the Brickworks are to swap their current Southern Water connection point to a new Thames Water connection point to supply all onsite water. This will then give an allowance of mains water from within the SNWSZ that can be sold as part of an offsetting scheme.

To ensure the development can achieve water neutrality in accordance with the NE Position Statement 13,803.88 litres per day will be need to be offset.

The number of credits required for this application is set out in the water budget (see table below). One credit is equivalent to 1 litre per day. The table below lists the developers participating in this scheme and their allocation.

The offsetting scheme is making up to 27,652.82 litres per day available for offsetting mains water demand, which equates to 27,652 credits.

As previously stated, the proposed development will have a total water demand of 13,803.88 litres per day and therefore require a minimum of 13,804 credits for the development to be water neutral.

**Table 13: Water Budget**

Developer	Planning Reference (if available)	Credits
Starting water use/credits	N/A	27,652
Bellway Homes Ltd - Southwater		13,804
	<b>Total Currently Allocated</b>	13,804
	<b>Remaining Credits (Surplus)</b>	13,848

The proposed development at Southwater will purchase and be allocated 13,804 credits as part of the significant mains water offsetting scheme at Woodsomes Farm. Therefore, the residual mains water requirement of the development of 13,803.88 litres per day has been fully offset and there is no additional mains water requirement within the SNWSZ as a result of the development at Woodfords, Shipley Road, Southwater.

## 11.3. SUMMER OVERHEATING AND COOLING

With a continual drive for energy efficiency through both the Building Regulations and Local Planning Authority requirements, the risk of overheating to dwellings in the summer months is becoming more prevalent. Overheating can be a mild discomfort or a hazard to health if managed incorrectly, so it is vitally important that overheating risk be mitigated to ensure the dwelling will be both energy efficient and comfortable to live in.

Summer overheating is caused when there is excess build-up of heat within a dwelling. This can occur where there is excessive solar gain and limited means to absorb excess heat into the building fabric or purge this heat through ventilation. Summer overheating can be managed through a variety of measures and the chosen solution will vary from development to development. The following measures will be considered, with the final overheating mitigation strategy to be confirmed at the design stage:

### Limiting Solar Gains

#### 1. Orientation and Shading:

- Buildings should be designed to minimise solar gains during the summer months. This can be achieved by orienting the building to reduce exposure to direct sunlight and using shading devices such as overhangs, awnings, or brise-soleil.
- Consideration should be given to the use of trees and vegetation for natural shading.

#### 2. Glazing Strategy:

- The amount, type, and position of glazing should be carefully considered. High-performance glazing with low solar transmittance values (g-values) can help limit solar heat gain
- Use of external shading devices or blinds to reduce solar gain through windows.

#### 3. Internal Layout:

- Arrange internal spaces to position heat-sensitive rooms (such as bedrooms) away from areas of high solar gain.
- Use buffer zones, such as corridors or storage areas, on the sunniest side of the building.

### Removing Excess Heat

#### 1. Natural Ventilation:

- Design for effective natural ventilation through the use of acoustically attenuated vents where external noise levels allow. Use cross ventilation by having openings on opposite sides of the building.

#### 2. Mechanical Ventilation and Cooling:

- Where natural ventilation is insufficient, mechanical ventilation systems may be used, potentially incorporating heat recovery to improve energy efficiency.
- In extreme cases, mechanical cooling (such as air conditioning) may be necessary, but should be a last resort due to its energy consumption.

#### 3. Thermal Mass:

- Use thermal mass within the building to absorb heat during the day and release it during cooler periods (e.g., at night).
- Materials like concrete, brick, or stone can provide effective thermal mass.

The development will be subject to Part O of the Building Regulations, which came into effect on 15<sup>th</sup> June 2022. Where possible, compliance with Part O can be demonstrated using the simplified method. Where this is not possible, dynamic thermal modelling will be required. CIBSE TM59 is an approved methodology of dynamic thermal modelling. It includes a set of overheating criteria specifically aimed at residential spaces. It is mandatory to perform the TM59 calculations using a Dynamic Simulation Modelling (DSM) software.

TM59 requires compliance by passing both of the following criteria for homes predominantly naturally ventilated:

- All living rooms, kitchens areas must have  $\Delta T$  greater than or equal to one degree (K) during the period May to September (identical to TM52 criterion 01: hours of exceedance).

2. For bedrooms only, to guarantee comfort during the sleeping hours the operative temperature in the bedroom from 10pm to 7am shall not exceed 26°C for more than 1% of annual hours which will be 33 hours. The TM59 criteria for predominantly mechanically ventilated dwellings is as follows:

1. For homes with restricted window openings, the fixed temperature test must be followed – i.e., all occupied rooms should not exceed an operative temperature of 26°C for more than 3% of annual occupied hours.

The full Overheating Assessment, to demonstrate compliance with Part O, will be undertaken at the detailed design stage once the design and construction specifications have been fully established.

## 12. APPENDICES

The following pages detail:

- Appendix A: Alternative Renewable Energy Options
- Appendix B: Vaillant aroTHERM Plus Technical Datasheet
- Appendix C: Vaillant aroSTOR Technical Datasheet
- Appendix D: Sample SAP Summary Information Sheets (Be Lean)
- Appendix E: Sample SAP Summary Information Sheets (Be Green)

## 12.1. APPENDIX A: ALTERNATIVE RENEWABLE ENERGY OPTIONS

The following alternative options to supply low carbon and renewable energy generation have been explored and discounted based on the following reasons:

### **Wind Turbines**

Wind turbines come in a variety of sizes and shapes. Turbines of 1 Kw can be installed to single house and large-scale turbines of 1-2 MW can be installed on a development to generate electricity to multiple dwellings and other buildings. In both instances the electricity generated can be used on site or exported to the grid. Vertical- or horizontal-axis turbines are available.

A roof-mounted 1 kW micro wind system costs up to £3,000. A 2.5 kW pole-mounted system costs between £9,900 and £19,000. A 6 kW pole-mounted system costs between £21,000 and £30,000 (taken from the Energy Saving Trust, TBC by supplier)

- Local average wind speed is a determining factor. A minimum average wind speed of 6 m/s is required.
- Noise considerations can be an issue dependent on density and build-up of the surrounding area.
- Buildings in the immediate area can disrupt wind speed and reduce performance of the system.
- Planning permission will be required along with suitable space to site the turbine, whether ground installed or roof mounted.

Wind turbines have been discounted due to concerns over reliable wind resources. The use of wind turbines is likely to present aesthetic as well as nuisance issues.

### **Biomass Boilers**

Providing a heating system fuelled by plant-based materials such as wood, crops or food waste. Biomass boilers generate heat for space heating and domestic hot water through the combustion of biofuels, such as woodchip, wood pellets or potentially biofuel or bio diesel. Biomass is considered to be virtually zero carbon. They can be used on an individual scale or for multiple dwellings as part of a district-heating network. A back-up heat source should be provided as consistent delivery of fuel is necessary for continued operation.

Biomass is considered a technically-viable option for this development scheme as there are no apparent physical constraints on site in terms of installing biomass boilers or storing a sufficient supply. There are, however, concerns regarding a sustainable supply of biomass to the site. The capital installation cost would also be high which leads us to the conclusion that biomass would not be a commercially-viable option for this development scheme.

### **Solar Thermal**

Solar Thermal generates domestic hot water from the sun's radiation. Glycol circulates within either flat plate or evacuated tube panels, absorbing heat from the sun, and transferring this energy to a water cylinder. A well designed solar thermal system will account for 50-60% of a dwelling's annual hot water demand. Sizing the system to meet a higher demand will lead to excess heat generation in the summer months and overheating of the system.

High installation costs and dependency on sunlight has meant that this option has been discounted for this development.

### **Ground Source Heat Pumps (GSHP)**

Ground Source Heat Pumps (GSHPs) operate on the same principle as an Air Source Heat Pump (ASHP) in that they extract heat from a source (in this instance the ground) and compress this energy to increase temperature for space heating and hot water. Pipework is installed into the ground, either through coils or in bore holes and piles, circulating a mix of water and antifreeze to extract energy from the ground, where the year-round temperature is relatively consistent (approx. 10°C at 4 metres depth). This leads to a reliable source of heat for the building.

Again, an electrically powered pump circulates the liquid and powers the compressor, however annual efficiencies for GSHPs tend to be higher than those of ASHPs.

With regards to capital cost, GSHPs are more expensive to install than ASHP and also rely on the use of energy to pump fluid around the pipework.

GSHPs have been discounted for this scheme as they are considered to be more complex, technically risky and costly, than the alternative ASHP option.

**Photovoltaic Panels (PV)**

Photovoltaic panels (PV) capture the sun's energy and convert it into electricity. This could be a solution to reduce CO<sub>2</sub> emissions to satisfy building regulations, however, the efficient building fabric and use of air source heat pumps ensures compliance is met without the need for PV. Subject to the anticipated construction programme, some dwellings may need to include PV panels in order to further reduce carbon emissions in accordance with the incoming Future Homes and Buildings Standard.

## 12.2. APPENDIX B: VAILLANT aroTHERM PLUS TECHNICAL DATASHEET

Figure 6: Vaillant aroTHERM Plus Technical Datasheet

aroTHERM plus	Unit	3.5kW VWL 35 / 6	5kW VWL 55 / 6	7kW VWL 75 / 6	10kW VWL 105 / 6	12kW VWL 125 / 6
<b>General</b>						
Width	mm		1,100			
Height	mm	765	965		1,565	
Depth	mm		450			
Weight, ready for operation	kg	114	128		194	
Connection, heating circuit			G 1 1/4"			
Rated voltage	V		230 V (+10%/- 15%), 50 Hz, 1~/N/PE			
Rated current, maximum	A	14.3	15.0		23.3	
Fuse size		16			25	
Fuse type	A		C/D			
RCD type			A			
eBUS (2-core communication cable)	mm <sup>2</sup>		0.75			
Maximum length eBUS cable (communication cable)	m		50			
IP rating			IP 15 B			
Fan, power consumption	W	40			50	
Fan quantity		1			2	
Fan, air flow , maximum	m <sup>3</sup> /h	2,300			5,100	
Heating pump, power consumption	W	2 - 50			3 - 87	
<b>Heating circuit</b>						
Heating water temperature, minimum/maximum	° C		20 - 75			
Basic length of the heating water pipe, maximum, between the outdoor unit and indoor unit	m		20			
Operating pressure, minimum	bar		0.50			
Operating pressure, maximum	bar		3.00			
Volume flow, minimum	l/h	400	540		995	
Volume flow, maximum	l/h	860	1,205		2,065	
Water volume, in the outdoor unit	l	1.5	2.0		2.5	
Water volume, in the heating circuit, minimum, thawing mode, activated/deactivated back-up heater	l	15 / 40	20 / 55		45 / 150	
Remaining feed pressure, hydraulic	kPa (mbar)	56.0 (560.0)	44.0 (440.0)		55.0 (550.0)	
aroTHERM plus	Unit	3.5kW VWL 35 / 6	5kW VWL 55 / 6	7kW VWL 75 / 6	10kW VWL 105 / 6	12kW VWL 125 / 6
<b>Refrigerant circuit</b>						
Fluid type			R290			
Fluid fill quantity	kg	0.6	0.9		1.3	
Refrigerant, Global Warming Potential (GWP)			3			
CO <sub>2</sub> equivalent	t	0.0018	0.0027		0.0039	
Permissible operating pressure	bar		31.5			
Compressor type		Rotary piston		Scroll compressor		
Compressor oil type			Specific polyalkylene glycol (PAG)			
Compressor, control			Electronic			

Noise emissions, heating mode					
Sound power, EN 12102, EN 14511 LWA, A7/W35	dB(A)	51		53	58
Sound power, EN 12102, EN 14511 LWA, A7/W45	dB(A)	53		58	
Sound power, EN 12102, EN 14511 LWA, A7/W55	dB(A)	54		55	60

Efficiency					
Energy efficiency class 35°C	(A+++ to F)	A+++			
Energy efficiency class 55°C	(A+++ to F)	A++			

Combination with uniTOWER					
Energy efficiency class	(A+++ to F)	A++			
Energy efficiency class for hot water supply	(A+ to F)	A			

**SCOP and heating output**

aroTHERM output	35°C flow		40°C flow		45°C flow		50°C flow		55°C flow		
	Output	SCOP									
3.5kW	-5°C	4.2	4.41	4.1	4.03	4	3.65	3.9	3.37	3.8	3.10
	-3°C	4.6		4.4		4.3		4.2		4	
	0°C	4.7		4.7		4.6		4.5		4.4	
	2°C	4.9		4.9		4.9		4.7		4.6	
5kW	-5°C	6.3	4.48	6	4.13	5.6	3.77	5.5	3.41	5.4	3.06
	-3°C	6.8		6.4		6.1		5.9		5.8	
	0°C	6.9		6.7		6.6		6.4		6.2	
	2°C	7.1		7		6.9		6.7		6.5	
7kW	-5°C	8.2	4.36	8.1	4.13	8	3.91	7.5	3.65	7	3.39
	-3°C	8.8		8.6		8.4		7.9		7.4	
	0°C	9.5		9.3		9.1		8.6		8.1	
	2°C	10		9.8		9.6		9		8.5	
10kW	-5°C	9.9	5.03	9.7	4.58	9.4	4.13	9.1	3.85	8.8	3.58
	-3°C	10.7		10.3		10		9.6		9.2	
	0°C	11.9		11.6		11.3		10.7		10.2	
	2°C	12.8		12.5		12.1		11.5		10.9	
12kW	-5°C	13.1	4.88	12.8	4.55	12.5	4.21	11.7	3.92	10.8	3.63
	-3°C	13.9		13.4		12.9		12.1		11.2	
	0°C	15.2		14.6		14.1		13.2		12.3	
	2°C	16		15.5		14.9		13.9		13	

## 12.3. APPENDIX C: VAILLANT aROSTOR TECHNICAL DATASHEET

Figure 7: Vaillant aROSTOR Technical Datasheet



Vaillant is the leading premium brand for sustainable and responsible system solutions, ensuring your customers experience comfort for their home. Our products have high energy efficiency ratings and low emissions, with an enviable reputation for performance, quality and reliability.

### Introducing the domestic hot water heat pump with natural refrigerant: The aROSTOR

The aROSTOR range of domestic hot water heat pumps features 200 and 270 litre models. The range is incredibly efficient and sustainable, using thermal energy to heat hot water. This thermal energy can be collected via an external air duct, or it can recycle hot air from within the room where it's installed, provided there is sufficient ventilation. The only other energy needed is the electricity to run the appliance.



Visit [www.vaillant.co.uk/aroSTOR](http://www.vaillant.co.uk/aroSTOR) to find out more

# Technical data

## aroSTOR heat pump 200 and 270 litres

	aroSTOR 200 litre	aroSTOR 270 litre
<b>General</b>		
Nominal capacity	200l	270l
Outer diameter	634 mm	634 mm
Height	1,458 mm	1,783 mm
Weight (when empty)	55kg	68kg
Weight (filled)	255kg	338kg
Cylinder material	Stainless steel	Stainless steel
Heat insulation	Polyurethane foam 50 mm	Polyurethane foam 50 mm
Type of electric heater	Immersion / Ti	Immersion / Ti
Thermal losses 55°C	1,61 kW/24h	1,77 kW/24h
DHW temperature range (HP only)	30 to 60°C	30 to 60°C
Max. temperature of DHW HP inlet domestic water	70°C	70°C
Minimal air flow range	320 m3/h	320 m3/h
Nominal air flow range	350 m3/h	350 m3/h
Maximum air flow range (non ducted)	400 m3/h	400 m3/h
Maximum pressure	6 bar	6 bar
Max. hot water temperature (HP + back up heater)	65°C	65°C
Maximum pressure of the T&P relief valve	7 bar	7 bar
Maximum temperature of the T&P relief valve	90°C	90°C
<b>Electrical specifications</b>		
Max. power consumption (HP + back up heater)	1900 watts	1900 watts
Max. power consumption (HP only)	700 watts	700 watts
Voltage and frequency of the product's power supply	230v - 50Hz	230v - 50Hz
Max amperage of the power supply circuit	8 amp	8 amp
Length of the electrical cable supplied	1.5m	1.5m
IP rating	IPX4	IPX4
Nominal heat output of the electric back-up heater	1.2kW	1.2kW
<b>Connections</b>		
Connections for the hot water circuit	M 3/4"	M 3/4"
Connecting the temperature and pressure relief valve	M 3/4"	M 3/4"
Max. flexible air duct length	10m	10m
Max. rigid air duct length	20m	20m
Min. distance between product and adjacent structures	0mm	0mm
Fuse size	13 amp	13 amp
<b>Specifications for the heat pump (in accordance with EN 16147:2017)</b>		
Refrigerant type	R290	R290
Refrigerant volume for complete filling	015kg	015kg
Minimum and maximum air temperatures	-7 to 35°C	-7 to 35°C
Sound power level	52 dB	52 dB
Coefficient of performance	319	314
Maximum usable domestic hot water at 54°C	247 litres	349 litres
Full re-heat time at A7	7.04 hr	10.15 hr
<b>(in accordance with EN 16147:2017)</b>		
Tapping profile	L	L
ErP rating (A+ - F)	A+	A+
Seasonal efficiency	132%	130%

---

## 12.4. APPENDIX D: SAMPLE SAP SUMMARY INFORMATION SHEETS (BE LEAN)

# Summary for Input Data



Property Reference	2 Bed EF Flat	Issued on Date	14/10/2025
Assessment Reference	001	Prop Type Ref	2 Bed EF Flat
Property	2 Bed EF Flat		
SAP Rating	83 B	DER	17.34
Environmental	86 B	% DER < TER	-20.92
CO <sub>2</sub> Emissions (t/year)	1.1	DFEE	43.25
Compliance Check	See BREL	% DFEE < TFEE	-8.78
% DPER < TPER	-27.68	DPER	96.65
TPER	75.70		

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	Flat, Mid-Terrace	
Position of Flat	Mid-floor flat	
Which Floor	2	
2.0 Number of Storeys	1	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	Yes	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	70.01 m <sup>2</sup>	2.40 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	24.07	m <sup>2</sup>
-----------------	-------	----------------

9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	42.64	31.93	0.00	None	10.71	Enter Gross Area
Communal Wall		Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.26	110.00	19.01	16.89	0.50	Stairwell Access Corridor 1	2.12	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	20.93	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	123.56
Block Partitions		Dense block, plasterboard on dabs	75.00	38.02

10.1 Party Ceilings		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	70.01

# Summary for Input Data

## 11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Exposed Floor	Exposed Floor - Solid	Lowest occupied	Other	0.15	None	0.00	75.00	70.01

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors Windows	Manufacturer BFRC, BSI or CERTASS data	Solid Door Window	Double Low-E Soft 0.1 Double Low-E Soft 0.1			0.63 0.45		1.00	1.00 1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	Communal Wall	North	2.12	0
W1	Windows	External Wall 1	North	7.95	0
W4	Windows	External Wall 1	West	2.76	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	8.30	0.05	0.05	No
E3 Sill	Independently assessed	4.86	0.02	0.02	No
E4 Jamb	Independently assessed	19.80	0.01	0.01	No
E18 Party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	8.72	0.00	0.07	No
E7 Party floor between dwellings (in blocks of flats)	Independently assessed	25.69	0.05	0.05	No
E16 Corner (normal)	Non Gov Approved Schemes	7.20	0.04	0.04	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.40	-0.10	-0.10	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No
E20 Exposed floor (normal)	Table K1 - Default	25.69	0.32	0.32	No
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	8.72	0.48	0.48	No

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

No

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500755

Duct Type

Rigid

Wet Rooms

3

SFP from Installer Commissioning Certificate

No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	2
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys

0

Number of open flues

0

Number of chimneys/flues attached to closed fire

0

Number of flues attached to solid fuel boiler

0

Number of flues attached to other heater

0

Number of blocked chimneys

0

Number of intermittent extract fans

0

# Summary for Input Data

Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>												
	No											
<b>22.0 Pressure Testing</b>												
Designed AP <sub>50</sub>	4.00											
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00											
Database Ref. No.	0											
Fuel Type	Mains gas											
SAP Code	104											
In Winter	88.90											
In Summer	88.30											
Model Name	Gas											
Manufacturer	Gas											
Controls SAP Code	2110											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Flue Type	Balanced											
Fan Assisted Flue	Yes											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
Boiler Interlock	Yes											
Combi boiler type	Standard Combi											
<b>25.0 Main Heating 2</b>												
	None											
<b>26.0 Heat Networks</b>												
	None											
<b>27.0 Secondary Heating</b>												
	None											
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 1											
SAP Code	901											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											
Waste Water Heat Recovery Storage System	No											
Solar Panel	No											
Water use <= 125 litres/person/day	Yes											
Summer Immersion	No											

# Summary for Input Data



Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	No
Cylinder In Heated Space	No
Independent Time Control	No
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.61
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes
	Annual

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	2 Bed GF Flat	Issued on Date	14/10/2025
Assessment Reference	001	Prop Type Ref	2 Bed GF Flat
Property	2 Bed GF Flat		
SAP Rating	84 B	DER	15.58
Environmental	88 B	% DER < TER	-15.58
CO <sub>2</sub> Emissions (t/year)	1	DFEE	33.05
Compliance Check	See BREL	% DFEE < TFEE	35.86
% DPER < TPER	-22.65	DPER	87.18
TPER	71.08		

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	Flat, Mid-Terrace	
Position of Flat	Ground-floor flat	
Which Floor	1	
2.0 Number of Storeys	1	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	Yes	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	70.01 m <sup>2</sup>	2.40 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	24.07	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	42.64	31.93	0.00	None	10.71	Enter Gross Area
Communal Wall	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.26	110.00	19.01	16.89	0.50	Stairwell Access Corridor 1	2.12	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	20.93	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions	Plasterboard on timber frame		9.00	123.56
Block Partitions	Dense block, plasterboard on dabs		75.00	38.02

10.1 Party Ceilings		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Ceiling 1	Precast concrete planks floor, screed, carpeted		30.00	70.01

# Summary for Input Data

## 11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	70.01

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.00
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	Communal Wall	North	2.12	0
W1	Windows	External Wall 1	North	7.95	0
W4	Windows	External Wall 1	West	2.76	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	8.30	0.05	0.05	No
E3 Sill	Independently assessed	4.86	0.02	0.02	RCD
E4 Jamb	Independently assessed	19.80	0.01	0.01	RCD
E5 Ground floor (normal)	Independently assessed	25.69	0.05	0.05	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	RCD
P1 Party wall - Ground floor	Non Gov Approved Schemes	8.72	0.04	0.04	RCD
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	8.72	0.00	0.07	No
E7 Party floor between dwellings (in blocks of flats)	Independently assessed	25.69	0.05	0.05	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.20	0.04	0.04	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.40	-0.10	-0.10	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

No

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500755

Duct Type

Rigid

Wet Rooms

3

SFP from Installer Commissioning Certificate

No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	2
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys

0

Number of open flues

0

Number of chimneys/flues attached to closed fire

0

Number of flues attached to solid fuel boiler

0

Number of flues attached to other heater

0

Number of blocked chimneys

0

Number of intermittent extract fans

0

# Summary for Input Data

Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>												
	No											
<b>22.0 Pressure Testing</b>												
Designed AP <sub>50</sub>	4.00											
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00											
Database Ref. No.	0											
Fuel Type	Mains gas											
SAP Code	104											
In Winter	88.90											
In Summer	80.30											
Model Name	Gas											
Manufacturer	Gas											
Controls SAP Code	2110											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Flue Type	Balanced											
Fan Assisted Flue	Yes											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
Boiler Interlock	Yes											
Combi boiler type	Standard Combi											
<b>25.0 Main Heating 2</b>												
	None											
<b>26.0 Heat Networks</b>												
	None											
<b>27.0 Secondary Heating</b>												
	None											
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 1											
SAP Code	901											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											
Waste Water Heat Recovery Storage System	No											
Solar Panel	No											
Water use <= 125 litres/person/day	Yes											
Summer Immersion	No											

# Summary for Input Data

Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	No
Cylinder In Heated Space	No
Independent Time Control	No
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.61
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes
	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	2 Bed MF Flat	Issued on Date	14/10/2025
Assessment Reference	001	Prop Type Ref	2 Bed MF Flat
Property	2 Bed MF Flat		
SAP Rating	85 B	DER	14.19
Environmental	89 B	% DER < TER	-25.35
CO <sub>2</sub> Emissions (t/year)	0.91	DFEE	26.68
Compliance Check	See BREL	% DFEE < TFEE	-2.45
% DPER < TPER	-34.00	DPER	79.68
TPER	59.46		

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	Flat, Mid-Terrace	
Position of Flat	Mid-floor flat	
Which Floor	2	
2.0 Number of Storeys	1	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	Yes	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	70.01 m <sup>2</sup>	2.40 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	24.07	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	42.64	31.93	0.00	None
Communal Wall		Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure		0.26	110.00	19.01	16.89	0.50	Stairwell Access Corridor 1

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	20.93	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	123.56
Block Partitions		Dense block, plasterboard on dabs	75.00	38.02

10.1 Party Ceilings		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	70.01

# Summary for Input Data

## 11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	70.71

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.00
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	Communal Wall	North	2.12	0
W1	Windows	External Wall 1	North	7.95	0
W4	Windows	External Wall 1	West	2.76	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	8.30	0.05	0.05	No
E3 Sill	Independently assessed	4.86	0.02	0.02	RCD
E4 Jamb	Independently assessed	19.80	0.01	0.01	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	RCD
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	17.44	0.00	0.07	No
E7 Party floor between dwellings (in blocks of flats)	Independently assessed	48.37	0.05	0.05	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.20	0.04	0.04	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.40	-0.10	-0.10	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	3.00	0.30	0.30	No

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	No
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500755
Duct Type	Rigid
Wet Rooms	3
SFP from Installer Commissioning Certificate	No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	2
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0

# Summary for Input Data

Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Manufacturer										
Percentage of Heat	100.00	%									
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										

# Summary for Input Data



Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	No
Cylinder In Heated Space	No
Independent Time Control	No
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.61
In Airing Cupboard	No

31.0 Thermal Store	None
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34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	2 Bed TF Flat	Issued on Date	14/10/2025
Assessment Reference	001	Prop Type Ref	2 Bed TF Flat
Property	2 Bed TF Flat		
SAP Rating	83 B	DER	16.45
Environmental	87 B	% DER < TER	-17.92
CO <sub>2</sub> Emissions (t/year)	1.07	DFEE	38.07
Compliance Check	See BREL	% DFEE < TFEE	38.46
% DPER < TPER	-24.79	DPER	91.81
TPER	73.57		

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	Flat, Mid-Terrace	
Position of Flat	Top-floor flat	
Which Floor	3	
2.0 Number of Storeys	1	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	70.81 m <sup>2</sup>	2.40 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	27.66	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	50.27	38.22	0.00	None	12.05	Enter Gross Area
Communal Wall		Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.26	110.00	34.84	32.72	0.50	Stairwell Access Corridor 1	2.12	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	15.43	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	116.33

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof		External Plane Roof	0.09	9.00	70.81	70.81	None	0.00	Enter Gross Area	0.00

# Summary for Input Data

## 11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	70.81

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.00
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	Communal Wall	North	2.12	0
W1	Windows	External Wall 1	North	8.41	0
W4	Windows	External Wall 1	East	3.64	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	9.62	0.05	0.05	No
E3 Sill	Independently assessed	6.18	0.02	0.02	RCD
E4 Jamb	Independently assessed	23.70	0.01	0.01	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	RCD
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	6.43	0.00	0.07	No
E7 Party floor between dwellings (in blocks of flats)	Independently assessed	32.46	0.05	0.05	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.20	0.04	0.04	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.40	-0.10	-0.10	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	3.00	0.30	0.30	No
E10 Eaves (insulation at ceiling level)	Independently assessed	35.46	0.05	0.05	RCD
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	6.43	0.03	0.03	RCD
					No
					No

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	No
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500755
Duct Type	Rigid
Wet Rooms	3
SFP from Installer Commissioning Certificate	No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	2
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0

# Summary for Input Data

Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>	No										
No Fixed Lighting	<table> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Manufacturer										
Percentage of Heat	100.00										
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										

# Summary for Input Data



Water use <= 125 litres/person/day

Yes

Summer Immersion

No

Cold Water Source

From mains

Bath Count

1

Supplementary Immersion

No

Immersion Only Heating Hot Water

No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	None
Cylinder In Heated Space	No
Independent Time Control	No
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.61
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Electricity Generated	0.00	
Apportioned	0.00	kWh/Year
Connected to dwelling's electricity meter	Yes	
Electricity Generation	Annual	

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Baker Life - MT			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The Baker Life - MT	
Property	The Baker Life - MT				
SAP Rating	85 B	DER	13.47	TER	10.39
Environmental	89 B	% DER < TER			-29.64
CO <sub>2</sub> Emissions (t/year)	1	DFEE	26.41	TFEE	29.11
Compliance Check	See BREL	% DFEE < TFEE			9.28
% DPER < TPER	-40.03	DPER	76.01	TPER	54.28

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Mid-Terrace
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	39.97 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	19.59	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	40.77	28.99	0.00	None	11.78	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	97.81	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	115.22
Block Partitions		Dense block, plasterboard on dabs	75.00	14.41

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	39.97	39.97	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
Description				

# Summary for Input Data



Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	39.97						
<b>11.0 Heat Loss Floors</b>									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m <sup>2</sup> K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m <sup>2</sup> K) 75.00						
			Area (m <sup>2</sup> ) 39.97						
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 39.97						
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch				
Front Door	Doors	External Wall 1	North	2.15	0				
W1	Windows	External Wall 1	North	3.53	0				
W4	Windows	External Wall 1	South	3.95	0				
Rear Door	Doors	External Wall 1	South	2.15	0				
<b>14.0 Conservatory</b>				None					
<b>15.0 Draught Proofing</b>				100	%				
<b>16.0 Draught Lobby</b>				No					
<b>17.0 Thermal Bridging</b>				Calculate Bridges					
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	8.28	0.05	0.05	No				
E3 Sill	Non Gov Approved Schemes	6.24	0.02	0.02	No				
E4 Jamb	Non Gov Approved Schemes	20.25	0.01	0.01	No				
E5 Ground floor (normal)	Non Gov Approved Schemes	8.16	0.05	0.05	No				
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	8.16	0.05	0.05	No				
E18 Party wall between dwellings	Non Gov Approved Schemes	19.98	0.05	0.05	No				
P1 Party wall - Ground floor	Non Gov Approved Schemes	19.58	0.04	0.04	No				
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	19.58	0.00	0.07	No				
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	19.58	0.03	0.03	No				
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	8.16	0.00	0.00	No				
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	No								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Duct Type	Rigid								
Wet Rooms	3								
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	2							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.11	Through Wall Fan	0							
	Kitchen								
0.14	Through Wall Fan	0							
	Other Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									
Number of open chimneys	0								
Number of open flues	0								
Number of chimneys/flues attached to closed fire	0								
Number of flues attached to solid fuel boiler	0								

# Summary for Input Data

Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<hr/>											
<b>21.0 Fixed Cooling System</b>	No										
<hr/>											
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<hr/>											
<b>22.0 Lighting</b>	No										
No Fixed Lighting	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<hr/>											
<b>24.0 Main Heating 1</b>	Manufacturer										
Percentage of Heat	100.00										
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<hr/>											
<b>25.0 Main Heating 2</b>	None										
<hr/>											
<b>26.0 Heat Networks</b>	None										
<hr/>											
<b>27.0 Secondary Heating</b>	None										
<hr/>											
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										

# Summary for Input Data



Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Showers	Combi boiler or unvented hot water system	8.00	9.30	No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00 L
Loss	1.40 kWh/day
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00 kWh/Year
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Baker Life - SD			Issued on Date	14/10/2025
Assessment Reference	001			Prop Type Ref	The Baker Life - SD
Property	The Baker Life - SD				
SAP Rating	84 B	DER	14.48	TER	11.72
Environmental	88 B	% DER < TER			-23.55
CO <sub>2</sub> Emissions (t/year)	1.07	DFEE	31.08	TFEE	35.31
Compliance Check	See BREL	% DFEE < TFEE			12.00
% DPER < TPER	-32.60	DPER	81.45	TPER	61.43

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Semi-Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
	Ground floor: 1.00 m 1st Storey: 1.00 m	39.97 m <sup>2</sup> 39.97 m <sup>2</sup>	2.39 m 2.61 m

8.0 Living Area	19.59	m <sup>2</sup>
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9.0 External Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
	External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	89.58	77.80	0.00	None	11.78	Enter Gross Area

9.1 Party Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
	Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	48.89	0.00	None

9.2 Internal Walls	Description	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
	Stud Partitions	Plasterboard on timber frame	9.00	115.22
	Block Partitions	Dense block, plasterboard on dabs	75.00	14.41

10.0 External Roofs	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculation	Openings Type
	Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	39.97	39.97	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings	Description	Storey	Construction	Area (m <sup>2</sup> )
------------------------	-------------	--------	--------------	------------------------

# Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	39.97			
<b>11.0 Heat Loss Floors</b>						
Description	Type	Storey Index	Construction			
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted			
			U-Value (W/m <sup>2</sup> K) 0.12			
			Shelter Code None			
			Shelter Factor 0.00			
			Kappa (kJ/m <sup>2</sup> K) 75.00			
			Area (m <sup>2</sup> ) 39.97			
<b>11.2 Internal Floors</b>						
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )			
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 39.97			
<b>12.0 Opening Types</b>						
Description	Data Source	Type	Glazing			
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			
			Glazing Gap 0.63 0.45			
			Filling Type RCD			
			G-value 0.70 1.00			
			Frame Type Frame Factor U Value (W/m <sup>2</sup> K) 1.30 1.30			
<b>13.0 Openings</b>						
Name	Opening Type	Location	Orientation Area (m <sup>2</sup> ) Pitch			
Front Door	Doors	External Wall 1	North 2.15 0			
W1	Windows	External Wall 1	North 3.53 0			
W4	Windows	External Wall 1	South 3.95 0			
Rear Door	Doors	External Wall 1	South 2.15 0			
<b>14.0 Conservatory</b>						
		None				
<b>15.0 Draught Proofing</b>						
		100	%			
<b>16.0 Draught Lobby</b>						
		No				
<b>17.0 Thermal Bridging</b>						
<b>17.1 List of Bridges</b>						
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported	
E2 Other lintels (including other steel lintels)	Independently assessed	8.28	0.05	0.05	HiTherm	No
E3 Sill	Non Gov Approved Schemes	6.24	0.02	0.02	RCD	No
E4 Jamb	Non Gov Approved Schemes	20.25	0.01	0.01	RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	17.91	0.05	0.05	RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	8.16	0.05	0.05	RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.79	0.04	0.04	RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	9.99	0.04	0.04	RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.78	0.04	0.04	RCD	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.79	0.00	0.07	Table K1	No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.79	0.03	0.03	RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	17.96	0.00	0.00	RCD	No
<b>19.0 Mechanical Ventilation</b>						
<b>Mechanical Ventilation</b>						
Mechanical Ventilation System Present	Yes					
Approved Installation	Yes					
Mechanical Ventilation data Type	Database					
Type	Mechanical extract ventilation - decentralised					
MV Reference Number	500755					
Duct Type	Rigid					
Wet Rooms	3					
SFP from Installer Commissioning Certificate	No					
<b>19.1 Mechanical extract ventilation - Decentralised</b>						
SFP	Fan/Room Type	Count				
0.15	In Room Fan	1				
	Kitchen					
0.15	In Room Fan Other	2				
	Wet Room					
0.00	In Duct Fan Kitchen	0				
0.00	In Duct Fan Other	0				
	Wet Room					
0.11	Through Wall Fan	0				
	Kitchen					
0.14	Through Wall Fan	0				
	Other Wet Room					
<b>20.0 Fans, Open Fireplaces, Flues</b>						
Number of open chimneys	0					
Number of open flues	0					
Number of chimneys/flues attached to closed fire	0					

# Summary for Input Data

Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>	No										
No Fixed Lighting	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Manufacturer										
Percentage of Heat	100.00	%									
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>	Main Heating 1										
Water Heating	901										
SAP Code	No										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										

# Summary for Input Data

Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Showers	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

31.0 Thermal Store	None
--------------------	------

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Draper - DET			Issued on Date	14/10/2025
Assessment Reference	001			Prop Type Ref	The Draper - DET
Property	The Draper - DET				
SAP Rating	86 B	DER	11.87	TER	8.08
Environmental	87 B	% DER < TER			-46.91
CO <sub>2</sub> Emissions (t/year)	2.2	DFEE	39.86	TFEE	40.76
Compliance Check	See BREL	% DFEE < TFEE			2.20
% DPER < TPER	-54.54	DPER	66.28	TPER	42.89

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00

kJ/m<sup>2</sup>K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements	Heat Loss Perimeter		Internal Floor Area		Unheated Space Floor Area		Average Storey Height	
	Ground floor:	1.00 m	86.70 m <sup>2</sup>	1st Storey:	1.00 m	119.05 m <sup>2</sup>	32.35 m <sup>2</sup>	2.39 m

8.0 Living Area	24.45	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	218.54	183.52	0.00	None
Garage Wall		Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	23.40	23.40	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	300.07
Block Partitions		Dense block, plasterboard on dabs	75.00	23.90

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calulation	Openings Type
Cold Roof		External Plane Roof	Plasterboard, insulated at ceiling level		0.09	9.00	119.05	119.05	None	0.00

10.2 Internal Ceilings		Construction	Area (m <sup>2</sup> )
Description	Internal Ceiling 1	Lowest occupied	119.05

11.0 Heat Loss Floors	
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# Summary for Input Data

Description	Type	Storey Index	Construction	U-Value (W/m²K)	Shelter Code	Shelter Factor	Kappa (kJ/m²K)	Area (m²)	
Ground Floor Floor Over Garage	Ground Floor - Solid Exposed Floor - Timber	Lowest occupied +1	Suspended concrete floor, carpeted Timber exposed floor, insulation between joists	0.12 0.15	None None	0.00 0.00	75.00 20.00	86.70 32.15	
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction					Kappa (kJ/m²K)	Area (m²)	
Internal Floor 1									
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Doors Windows	Manufacturer BFRC, BSI or CERTASS data	Half Glazed Door Window	Double Low-E Soft 0.1 Double Low-E Soft 0.1			0.63 0.45		0.70 1.00	1.30 1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m²)	Pitch				
Front Door	Doors	External Wall 1	North	1.96	0				
W1	Windows	External Wall 1	North	12.66	0				
W2	Windows	External Wall 1	West	0.67	0				
W3	Windows	External Wall 1	South	17.78	0				
Utility Door	Doors	External Wall 1	West	1.95	0				
<b>14.0 Conservatory</b>									
None									
<b>15.0 Draught Proofing</b>									
100 %									
<b>16.0 Draught Lobby</b>									
No									
<b>17.0 Thermal Bridging</b>									
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Independently assessed	23.42	0.05	0.05	No				
E3 Sill	Independently assessed	16.30	0.02	0.02	RCD				
E4 Jamb	Independently assessed	56.40	0.01	0.01	RCD				
E5 Ground floor (normal)	Independently assessed	46.65	0.05	0.05	RCD				
E10 Eaves (insulation at ceiling level)	Independently assessed	42.81	0.05	0.05	RCD				
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.28	0.04	0.04	RCD				
E16 Corner (normal)	Non Gov Approved Schemes	50.00	0.04	0.04	RCD				
E6 Intermediate floor within a dwelling	Independently assessed	36.92	0.00	0.00	RCD				
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	50.00	-0.10	-0.10	RCD				
E20 Exposed floor (normal)	Table K1 - Default	13.06	0.32	0.32	No				
E21 Exposed floor (inverted)	Table K1 - Default	9.77	0.32	0.32	No				
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	No								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Duct Type	Rigid								
Wet Rooms	7								
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	6							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.11	Through Wall Fan	0							
	Kitchen								
0.14	Through Wall Fan	0							
	Other Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									
Number of open chimneys	0								
Number of open flues	0								
Number of chimneys/flues attached to closed fire	0								

# Summary for Input Data

Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>	No										
No Fixed Lighting	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Manufacturer										
Percentage of Heat	100.00	%									
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>	Main Heating 1										
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										

# Summary for Input Data

Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00	9.30	No	Instantaneous System 1
Shower 2	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	
Shower 4	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	None
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Ploughwright Life - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The Ploughwright Life - SD	
Property	The Ploughwright Life - SD				
SAP Rating	84 B	DER	14.19	TER	11.31
Environmental	88 B	% DER < TER			-25.46
CO <sub>2</sub> Emissions (t/year)	1.22	DFEE	34.48	TFEE	38.13
Compliance Check	See BREL	% DFEE < TFEE			9.56
% DPER < TPER	-34.64	DPER	79.51	TPER	59.05
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001
Client					

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North									
Property Tenure	ND									
Transaction Type	6									
Terrain Type	Suburban									
1.0 Property Type	House, Semi-Detached									
Which Floor	0									
2.0 Number of Storeys	2									
3.0 Date Built	2025									
3.0 Property Age Band	L									
4.0 Sheltered Sides	2									
5.0 Sunlight/Shade	Average or unknown									
6.0 Thermal Mass Parameter	Precise calculation									
Thermal Mass	0.00 kJ/m <sup>2</sup> K									
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
Ground floor:	1.00 m									
1st Storey:	1.00 m									
Internal Floor Area	46.85 m <sup>2</sup>									
Average Storey Height	2.39 m									
	46.85 m <sup>2</sup>									
	2.61 m									
8.0 Living Area	22.57 m <sup>2</sup>									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	96.69	76.77	0.00	None	19.92	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter			
Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	48.91	0.00	None			
9.2 Internal Walls										
Description		Construction								
Stud Partitions		Plasterboard on timber frame								
Block Partitions		Dense block, plasterboard on dabs								
Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )									
9.00	146.93									
75.00	17.57									
10.0 External Roofs										
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	46.85	46.85	None	0.00	Enter Gross Area	0.00
10.2 Internal Ceilings										
Description	Storey	Construction								
										Area (m <sup>2</sup> )

# Summary for Input Data



Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	46.85						
<b>11.0 Heat Loss Floors</b>									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m <sup>2</sup> K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m <sup>2</sup> K) 75.00						
			Area (m <sup>2</sup> ) 39.97						
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 39.97						
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch				
Front Door	Doors	External Wall 1	North	2.15	0				
W1	Windows	External Wall 1	North	8.28	0				
W4	Windows	External Wall 1	East	4.07	0				
Rear Door	Doors	External Wall 1	South	2.15	0				
W3	Windows	External Wall 1	West	3.27	0				
<b>14.0 Conservatory</b>									
15.0 Draught Proofing	100				%				
<b>16.0 Draught Lobby</b>									
<b>17.0 Thermal Bridging</b>				Calculate Bridges					
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Independently assessed	14.73	0.05	0.05	HiTherm				No
E3 Sill	Non Gov Approved Schemes	12.23	0.02	0.02	RCD				No
E4 Jamb	Non Gov Approved Schemes	31.95	0.01	0.01	RCD				No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.35	0.05	0.05	RCD				No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.79	0.05	0.05	RCD				No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.56	0.04	0.04	RCD				No
E16 Corner (normal)	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				No
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				No
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.79	0.04	0.04	RCD				No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.79	0.00	0.07	Table K1				No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.79	0.03	0.03	RCD				No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	19.35	0.00	0.00	RCD				No
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	No								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Duct Type	Rigid								
Wet Rooms	3								
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	2							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.11	Through Wall Fan	0							
	Kitchen								
0.14	Through Wall Fan	0							
	Other Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									
Number of open chimneys	0								
Number of open flues	0								

# Summary for Input Data

Number of chimneys/flues attached to closed fire	0										
Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>											
Percentage of Heat	100.00										
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										

# Summary for Input Data

Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	
Electricity Generation	Annual

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR1 - MT			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR1 - MT	
Property	The SHR1 - MT				
SAP Rating	86 B	DER	12.28	TER	9.23
Environmental	89 B	% DER < TER			-33.04
CO <sub>2</sub> Emissions (t/year)	1.06	DFEE	25.36	TFEE	28.15
Compliance Check	See BREL	% DFEE < TFEE			9.91
% DPER < TPER	-44.65	DPER	69.32	TPER	47.92

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Mid-Terrace
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00 kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements	Ground floor: 1st Storey:	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
		1.00 m 1.00 m	46.76 m <sup>2</sup> 46.76 m <sup>2</sup>	2.39 m 2.61 m

8.0 Living Area	13.28	m <sup>2</sup>
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9.0 External Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
	External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	47.71	32.27	0.00	None	15.44	Enter Gross Area

9.1 Party Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
	Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	97.73	0.00	None

9.2 Internal Walls	Description	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
	Stud Partitions	Plasterboard on timber frame	9.00	153.86
	Block Partitions	Dense block, plasterboard on dabs	75.00	22.80

10.0 External Roofs	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculation	Openings Type
	Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	46.76	46.76	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings	Description	Storey	Construction	Area (m <sup>2</sup> )
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# Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	46.76		
<b>11.0 Heat Loss Floors</b>					
Description	Type	Storey Index	Construction		
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted		
			U-Value (W/m <sup>2</sup> K) 0.12		
			Shelter Code None		
			Shelter Factor 0.00		
			Kappa (kJ/m <sup>2</sup> K) 75.00		
			Area (m <sup>2</sup> ) 46.76		
<b>11.2 Internal Floors</b>					
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )		
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 46.76		
<b>12.0 Opening Types</b>					
Description	Data Source	Type	Glazing		
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1		
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1		
			Glazing Gap 0.63 0.45		
			Filling Type 0.70 1.00		
			G-value 0.45		
			Frame Type Frame Factor U Value (W/m <sup>2</sup> K) 1.30 1.30		
<b>13.0 Openings</b>					
Name	Opening Type	Location	Orientation Area (m <sup>2</sup> ) Pitch		
Front Door	Doors	External Wall 1	North 2.15 0		
W1	Windows	External Wall 1	North 5.47 0		
W2	Windows	External Wall 1	South 7.82 0		
<b>14.0 Conservatory</b>					
		None			
<b>15.0 Draught Proofing</b>					
		100	%		
<b>16.0 Draught Lobby</b>					
		No			
<b>17.0 Thermal Bridging</b>					
<b>17.1 List of Bridges</b>					
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	10.66	0.05	0.05	No
E3 Sill	Non Gov Approved Schemes	8.05	0.02	0.02	No
E4 Jamb	Non Gov Approved Schemes	22.95	0.01	0.01	No
E5 Ground floor (normal)	Non Gov Approved Schemes	9.54	0.05	0.05	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.54	0.05	0.05	No
E18 Party wall between dwellings	Non Gov Approved Schemes	19.98	0.05	0.05	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	19.57	0.04	0.04	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	19.56	0.00	0.07	No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	19.56	0.03	0.03	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	9.54	0.00	0.00	No
<b>19.0 Mechanical Ventilation</b>					
<b>Mechanical Ventilation</b>					
Mechanical Ventilation System Present	Yes				
Approved Installation	No				
Mechanical Ventilation data Type	Database				
Type	Mechanical extract ventilation - decentralised				
MV Reference Number	500755				
Duct Type	Rigid				
Wet Rooms	4				
SFP from Installer Commissioning Certificate	No				
<b>19.1 Mechanical extract ventilation - Decentralised</b>					
SFP	Fan/Room Type	Count			
0.15	In Room Fan	1			
	Kitchen				
0.15	In Room Fan Other	3			
	Wet Room				
0.00	In Duct Fan Kitchen	0			
0.00	In Duct Fan Other	0			
	Wet Room				
0.11	Through Wall Fan	0			
	Kitchen				
0.14	Through Wall Fan	0			
	Other Wet Room				
<b>20.0 Fans, Open Fireplaces, Flues</b>					
Number of open chimneys	0				
Number of open flues	0				
Number of chimneys/flues attached to closed fire	0				
Number of flues attached to solid fuel boiler	0				

# Summary for Input Data

Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<hr/>											
<b>21.0 Fixed Cooling System</b>	No										
<hr/>											
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<hr/>											
<b>22.0 Lighting</b>	No										
No Fixed Lighting	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<hr/>											
<b>24.0 Main Heating 1</b>	Manufacturer										
Percentage of Heat	100.00										
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<hr/>											
<b>25.0 Main Heating 2</b>	None										
<hr/>											
<b>26.0 Heat Networks</b>	None										
<hr/>											
<b>27.0 Secondary Heating</b>	None										
<hr/>											
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										

# Summary for Input Data



Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Showers	Combi boiler or unvented hot water system	8.00	9.30	No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00 L
Loss	1.40 kWh/day
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00 kWh/Year
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR1 - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR1 - SD	
Property	The SHR1 - SD				
SAP Rating	85 B	DER	13.13	TER	10.42
Environmental	88 B	% DER < TER			-26.01
CO <sub>2</sub> Emissions (t/year)	1.12	DFEE	29.46	TFEE	33.72
Compliance Check	See BREL	% DFEE < TFEE			12.65
% DPER < TPER	-35.99	DPER	73.87	TPER	54.32

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, End-Terrace
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	46.76 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	46.76 m <sup>2</sup>	2.61 m

8.0 Living Area	13.28	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	96.57	81.13	0.00	None	15.44	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	48.86	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	153.86
Block Partitions		Dense block, plasterboard on dabs	75.00	22.80

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	46.76	46.76	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
Description				

# Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	46.76						
<b>11.0 Heat Loss Floors</b>									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m <sup>2</sup> K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m <sup>2</sup> K) 75.00						
			Area (m <sup>2</sup> ) 46.76						
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 46.76						
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch				
Front Door	Doors	External Wall 1	North	2.15	0				
W1	Windows	External Wall 1	North	2.89	0				
W2	Windows	External Wall 1	East	2.58	0				
W3	Windows	External Wall 1	West	2.99	0				
W4	Windows	External Wall 1	South	4.83	0				
<b>14.0 Conservatory</b>									
15.0 Draught Proofing	100				%				
16.0 Draught Lobby	No								
<b>17.0 Thermal Bridging</b>				Calculate Bridges					
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Independently assessed	10.66	0.05	0.05	HiTherm				No
E3 Sill	Non Gov Approved Schemes	8.05	0.02	0.02	RCD				No
E4 Jamb	Non Gov Approved Schemes	22.95	0.01	0.01	RCD				No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.34	0.05	0.05	RCD				No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.54	0.05	0.05	RCD				No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.78	0.04	0.04	RCD				No
E16 Corner (normal)	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				No
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				No
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.78	0.04	0.04	RCD				No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.78	0.00	0.07	Table K1				No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.78	0.03	0.03	RCD				No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	19.32	0.00	0.00	RCD				No
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	No								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.11	Through Wall Fan	0							
	Kitchen								
0.14	Through Wall Fan	0							
	Other Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									
Number of open chimneys	0								
Number of open flues	0								

# Summary for Input Data

Number of chimneys/flues attached to closed fire	0										
Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>											
Percentage of Heat	100.00										
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										

# Summary for Input Data

Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Showers	Combi boiler or unvented hot water system	8.00	9.30	No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR2 - DET		Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR2 - DET
Property	The SHR2 - DET			
SAP Rating	84 B	DER	14.61	TER
Environmental	87 B	% DER < TER		-22.67
CO <sub>2</sub> Emissions (t/year)	1.28	DFEE	38.18	TFEE
Compliance Check	See BREL	% DFEE < TFEE		9.05
% DPER < TPER	-31.10	DPER	81.65	TPER

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
	Ground floor: 1.00 m 1st Storey: 1.00 m	48.03 m <sup>2</sup> 48.03 m <sup>2</sup>	2.39 m 2.61 m

8.0 Living Area	15.39	m <sup>2</sup>
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Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	156.29	126.00	0.00	None	30.29	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	172.75
Block Partitions		Dense block, plasterboard on dabs	75.00	23.09

Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	48.03	48.03	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Construction	Area (m <sup>2</sup> )
Description	Storey	Plasterboard ceiling, carpeted chipboard floor	48.03
Internal Ceiling 1	Lowest occupied		

Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	48.03

# Summary for Input Data

## 11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	48.03

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	External Wall 1	North	2.02	0
W1	Windows	External Wall 1	North	9.24	0
W2	Windows	External Wall 1	East	4.10	0
W3	Windows	External Wall 1	South	12.90	0
Rear Door	Doors	External Wall 1	South	2.03	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	20.47	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	13.79	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	48.90	0.01	0.01	RCD
E5 Ground floor (normal)	Non Gov Approved Schemes	31.29	0.05	0.05	RCD
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	15.52	0.05	0.05	RCD
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	15.78	0.04	0.04	RCD
E16 Corner (normal)	Non Gov Approved Schemes	29.97	0.04	0.04	RCD
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	31.29	0.00	0.00	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	9.99	-0.10	-0.10	RCD

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

No

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500755

Duct Type

Rigid

Wet Rooms

5

SFP from Installer Commissioning Certificate

No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	4
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys

0

Number of open flues

0

Number of chimneys/flues attached to closed fire

0

Number of flues attached to solid fuel boiler

0

Number of flues attached to other heater

0

Number of blocked chimneys

0

Number of intermittent extract fans

0

# Summary for Input Data

Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>												
	No											
<b>22.0 Pressure Testing</b>												
Designed AP <sub>50</sub>	4.00											
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00											
Database Ref. No.	0											
Fuel Type	Mains gas											
SAP Code	104											
In Winter	88.90											
In Summer	80.30											
Model Name	Gas											
Manufacturer	Gas											
Controls SAP Code	2110											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Flue Type	Balanced											
Fan Assisted Flue	Yes											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Underfloor Heating	Yes - Pipes in thin screed											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
Boiler Interlock	Yes											
Combi boiler type	Standard Combi											
<b>25.0 Main Heating 2</b>												
	None											
<b>26.0 Heat Networks</b>												
	None											
<b>27.0 Secondary Heating</b>												
	None											
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 1											
SAP Code	901											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											
Waste Water Heat Recovery Storage System	No											
Solar Panel	No											
Water use <= 125 litres/person/day	Yes											

# Summary for Input Data



Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1
Shower 2	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	
Shower 4	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store	None
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34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR3 - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR3 - SD	
Property	The SHR3 - SD				
SAP Rating	84 B	DER	14.08	TER	10.27
Environmental	88 B	% DER < TER			-37.10
CO <sub>2</sub> Emissions (t/year)	1.23	DFEE	33.98	TFEE	35.32
Compliance Check	See BREL	% DFEE < TFEE			3.80
% DPER < TPER	-49.98	DPER	80.20	TPER	53.47
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001
Client					

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, Semi-Detached	
2.0 Number of Storeys	2	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	No	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	50.99 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	45.58 m <sup>2</sup>	2.61 m

8.0 Living Area	12.60	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
Masonry Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.25	60.00	100.99	79.49	0.00	None	21.50	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	44.80	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Block Partition	Dense block, plasterboard on dabs		75.00	21.96
Stud Partition	Plasterboard on timber frame		9.00	184.73

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	45.58	45.58	None	0.00	Enter Gross Area	0.00
Low Level Roof	External Slope Roof	Plasterboard, insulated slope	0.15	9.00	5.41	5.41	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
Description				

# Summary for Input Data

Internal Ceiling	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	45.58						
<b>11.0 Heat Loss Floors</b>									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m <sup>2</sup> K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m <sup>2</sup> K) 75.00						
			Area (m <sup>2</sup> ) 50.99						
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )						
Internal Floor		Plasterboard ceiling, carpeted chipboard floor	9.00 45.58						
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
1	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
2	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
3	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
Front Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch				
1	1	Masonry Wall	North	6.41					
2	2	Masonry Wall	East	3.67					
3	3	Masonry Wall	South	9.29					
Front Door	Front Door	Masonry Wall	North	2.13					
<b>14.0 Conservatory</b>				None					
<b>15.0 Draught Proofing</b>				0	%				
<b>16.0 Draught Lobby</b>				No					
<b>17.0 Thermal Bridging</b>				Calculate Bridges					
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E1 Steel lintel with perforated steel base plate	Independently assessed	14.79	0.05	0.05	No				
E3 Sill	Independently assessed	10.44	0.02	0.02	RCD				
E4 Jamb	Independently assessed	33.60	0.01	0.01	RCD				
E5 Ground floor (normal)	Independently assessed	21.15	0.05	0.05	RCD				
E6 Intermediate floor within a dwelling	Independently assessed	19.37	0.00	0.00	RCD				
E10 Eaves (insulation at ceiling level)	Independently assessed	14.30	0.05	0.05	RCD				
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.91	0.04	0.04	RCD				
E16 Corner (normal)	Non Gov Approved Schemes	12.38	0.04	0.04	RCD				
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.39	-0.10	-0.10	RCD				
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.90	0.04	0.04	RCD				
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	8.12	0.00						
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.91	0.03	0.03	RCD				
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Configuration	500755								
Manufacturer SFP	0.00								
Duct Type	Rigid								
Wet Rooms	4								
Brand, Model									
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	3							
	Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									

# Summary for Input Data

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0
Number of intermittent extract fans	0
Number of passive vents	0
Number of flueless gas fires	0
<b>21.0 Fixed Cooling System</b>	
	No
<b>22.0 Pressure Testing</b>	
Designed AP <sub>50</sub>	4.00
Property Tested?	Yes
Test Method	Blower Door
<b>22.0 Lighting</b>	
No Fixed Lighting	Yes
<b>24.0 Main Heating 1</b>	
Percentage of Heat	100.00
Database Ref. No.	0
Fuel Type	Mains gas
SAP Code	104
In Winter	88.90
In Summer	80.30
Model Name	Gas
Manufacturer	Gas
Controls SAP Code	2110
Delayed Start Stat	Yes
Burner Control	Modulating
HETAS approved System	No
Flue Type	Balanced
Fan Assisted Flue	Yes
Is MHS Pumped	Pump in heated space
Heating Pump Age	2013 or later
Heat Emitter	Radiators
Flow Temperature	Enter value
Flow Temperature Value	55.00
Boiler Interlock	Yes
Combi boiler type	Standard Combi
<b>25.0 Main Heating 2</b>	
	None
<b>26.0 Heat Networks</b>	
	None
<b>27.0 Secondary Heating</b>	
	None
<b>28.0 Water Heating</b>	
Water Heating	Main Heating 1
SAP Code	901
Flue Gas Heat Recovery System	No
Waste Water Heat Recovery Instantaneous System 1	No

# Summary for Input Data

Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	0
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR4 - DET			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR4 - DET	
Property	The SHR4 - DET				
SAP Rating	84 B	DER	13.88	TER	10.22
Environmental	87 B	% DER < TER		-35.81	
CO <sub>2</sub> Emissions (t/year)	1.47	DFEE	38.37	TFEE	38.77
Compliance Check	See BREL	% DFEE < TFEE		1.04	
% DPER < TPER	-47.56	DPER	78.68	TPER	53.32

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, Detached	
2.0 Number of Storeys	2	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	No	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	59.13 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	59.13 m <sup>2</sup>	2.61 m

8.0 Living Area	22.11	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
Masonry Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.25	60.00	162.22	134.61	0.00	None	27.61	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Block Partition		Dense block, plasterboard on dabs	75.00	69.99
Stud Partition		Plasterboard on timber frame	9.00	150.22

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Shelter	Openings	Calculation Type
Cold Roof		External Plane Roof	0.09	9.00	59.13	59.13	None	0.00	Enter Gross Area	0.00	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )		
Internal Ceiling		Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	59.13		

11.0 Heat Loss Floors		Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Description	Type	Ground Floor - Solid	Lowest occupied	0.12	None	0.00	75.00	59.13

## 11.2 Internal Floors

# Summary for Input Data

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Internal Floor		Plasterboard ceiling, carpeted chipboard floor	9.00	59.13
<b>12.0 Opening Types</b>				
Description	Data Source	Type	Glazing	Glazing Gap
1	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1	0.45
2	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1	0.45
Front Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1	0.63
0.70				1.30
1.00				1.30
<b>13.0 Openings</b>				
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )
1	1	Masonry Wall	North	10.69
2	2	Masonry Wall	South	14.94
Front Door	Front Door	Masonry Wall	North	1.98
<b>14.0 Conservatory</b>				
None				
<b>15.0 Draught Proofing</b>				
0 %				
<b>16.0 Draught Lobby</b>				
No				
<b>17.0 Thermal Bridging</b>				
<b>17.1 List of Bridges</b>				
Bridge Type	Source Type	Length	Psi	Adjusted Reference:
E1 Steel lintel with perforated steel base plate	Independently assessed	17.59	0.05	0.05
E3 Sill	Independently assessed	10.74	0.02	0.02
E4 Jamb	Independently assessed	40.20	0.01	0.01
E5 Ground floor (normal)	Independently assessed	32.46	0.05	0.05
E6 Intermediate floor within a dwelling	Independently assessed	32.43	0.00	0.00
E10 Eaves (insulation at ceiling level)	Independently assessed	17.08	0.05	0.05
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	15.36	0.04	0.04
E16 Corner (normal)	Non Gov Approved Schemes	25.00	0.04	0.04
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.10	-0.10
<b>19.0 Mechanical Ventilation</b>				
<b>Mechanical Ventilation</b>				
Mechanical Ventilation System Present	Yes			
Approved Installation	Yes			
Mechanical Ventilation data Type	Database			
Type	Mechanical extract ventilation - decentralised			
MV Reference Number	500755			
Configuration	500755			
Manufacturer SFP	0.00			
Duct Type	Rigid			
Wet Rooms	4			
Brand, Model				
SFP from Installer Commissioning Certificate	No			
<b>19.1 Mechanical extract ventilation - Decentralised</b>				
SFP	Fan/Room Type	Count		
0.15	In Room Fan	1		
	Kitchen			
0.15	In Room Fan Other	3		
	Wet Room			
<b>20.0 Fans, Open Fireplaces, Flues</b>				
Number of open chimneys	0			
Number of open flues	0			
Number of chimneys/flues attached to closed fire	0			
Number of flues attached to solid fuel boiler	0			
Number of flues attached to other heater	0			
Number of blocked chimneys	0			
Number of intermittent extract fans	0			
Number of passive vents	0			

# Summary for Input Data

Number of flueless gas fires	0	
<b>21.0 Fixed Cooling System</b>	No	
<b>22.0 Pressure Testing</b>	Yes	
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	
<b>22.0 Lighting</b>		
No Fixed Lighting	Yes	
<b>24.0 Main Heating 1</b>	Manufacturer	
Percentage of Heat	100.00	%
Database Ref. No.	0	
Fuel Type	Mains gas	
SAP Code	104	
In Winter	88.90	
In Summer	80.30	
Model Name	Gas	
Manufacturer	Gas	
Controls SAP Code	2110	
Delayed Start Stat	Yes	
Burner Control	Modulating	
HETAS approved System	No	
Flue Type	Balanced	
Fan Assisted Flue	Yes	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	55.00	
Boiler Interlock	Yes	
Combi boiler type	Standard Combi	
<b>25.0 Main Heating 2</b>	None	
<b>26.0 Heat Networks</b>	None	
<b>27.0 Secondary Heating</b>	None	
<b>28.0 Water Heating</b>		
Water Heating	Main Heating 1	
SAP Code	901	
Flue Gas Heat Recovery System	No	
Waste Water Heat Recovery Instantaneous System 1	No	
Waste Water Heat Recovery Instantaneous System 2	No	
Waste Water Heat Recovery Storage System	No	
Solar Panel	No	
Water use <= 125 litres/person/day	Yes	
Summer Immersion	No	
Cold Water Source	From mains	
Bath Count	1	
Supplementary Immersion	No	

# Summary for Input Data



Immersion Only Heating Hot Water

No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

## 29.0 Hot Water Cylinder

Cylinder Stat	None
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	0
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	Yes

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Connected to dwelling's electricity meter	None
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR5 - DET			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR5 - DET	
Property	The SHR5 - DET				
SAP Rating	85 B	DER	13.80	TER	10.53
Environmental	87 B	% DER < TER			-31.05
CO <sub>2</sub> Emissions (t/year)	1.54	DFEE	40.70	TFEE	41.86
Compliance Check	See BREL	% DFEE < TFEE			2.75
% DPER < TPER	-39.44	DPER	76.77	TPER	55.06

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, Detached	
2.0 Number of Storeys	2	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	No	
Smart gas meter fitted	No	

7.0 Measurements	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
	Ground floor: 1st Storey:	1.00 m 1.00 m	2.38 m 2.61 m

8.0 Living Area	22.24	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
Masonry Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	79.36	59.32	0.00	None	20.04 Enter Gross Area
Tile Hanging Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	82.83	72.40	0.00	None	10.43 Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame		9.00
Block Partitions		Dense block, plasterboard on dabs		75.00

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof		External Plane Roof		0.09	9.00	60.97	60.97	None	0.00	Enter Gross Area
Bay Roof		External Flat Roof		0.11	9.00	2.09	2.09	None	0.00	Enter Gross Area

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )		
Internal Ceiling		Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	60.97		

11.0 Heat Loss Floors		Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Description	Type							

# Summary for Input Data



Suspended Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	63.01
<b>11.2 Internal Floors</b>								
<b>Description</b>	<b>Storey Index</b>	<b>Construction</b>			<b>Kappa (kJ/m<sup>2</sup>K)</b>	<b>Area (m<sup>2</sup>)</b>		
Internal Floor		Plasterboard ceiling, carpeted chipboard floor			9.00	60.97		
<b>12.0 Opening Types</b>								
<b>Description</b>	<b>Data Source</b>	<b>Type</b>	<b>Glazing</b>	<b>Glazing Gap</b>	<b>Filling Type</b>	<b>G-value</b>	<b>Frame Type</b>	<b>Frame Factor</b>
1	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
2	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
3	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
4	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
5	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
6	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
7	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
8	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
Front Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70
<b>13.0 Openings</b>								
<b>Name</b>	<b>Opening Type</b>	<b>Location</b>	<b>Orientation</b>	<b>Area (m<sup>2</sup>)</b>	<b>Pitch</b>			
1	1	Masonry Wall	North	6.44				
2	2	Masonry Wall	East	3.00				
3	3	Masonry Wall	West	5.73				
4	4	Masonry Wall	South	3.09				
5	5	Tile Hanging Wall	North	4.43				
6	6	Tile Hanging Wall	East	3.00				
7	7	Tile Hanging Wall	West	1.50				
8	8	Tile Hanging Wall	South	1.50				
Front Door	Front Door	Masonry Wall	North	1.78				
<b>14.0 Conservatory</b>								
		None						
<b>15.0 Draught Proofing</b>								
		0				%		
<b>16.0 Draught Lobby</b>								
		No						
<b>17.0 Thermal Bridging</b>								
<b>17.1 List of Bridges</b>								
<b>Bridge Type</b>	<b>Source Type</b>	<b>Length</b>	<b>Psi</b>	<b>Adjusted Reference:</b>	<b>Imported</b>			
E2 Other lintels (including other steel lintels)	Independently assessed	21.74	0.05	0.05				No
E3 Sill	Independently assessed	17.21	0.02	0.02	RCD			No
E4 Jamb	Independently assessed	60.00	0.01	0.01	RCD			No
E5 Ground floor (normal)	Independently assessed	33.27	0.05	0.05	RCD			No
E6 Intermediate floor within a dwelling	Independently assessed	27.50	0.00	0.00	RCD			No
E10 Eaves (insulation at ceiling level)	Independently assessed	18.29	0.05	0.05	RCD			No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	17.68	0.04	0.04	RCD			No
E16 Corner (normal)	Non Gov Approved Schemes	24.75	0.04	0.04	RCD			No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	4.77	-0.10	-0.10	RCD			No
<b>19.0 Mechanical Ventilation</b>								
<b>Mechanical Ventilation</b>								
Mechanical Ventilation System Present	Yes							
Approved Installation	Yes							
Mechanical Ventilation data Type	Database							
Type	Mechanical extract ventilation - decentralised							
MV Reference Number	500755							
Configuration	500755							
Manufacturer SFP	0.00							
Duct Type	Rigid							
Wet Rooms	5							
Brand, Model								
SFP from Installer Commissioning Certificate	No							
<b>19.1 Mechanical extract ventilation - Decentralised</b>								
<b>SFP</b>	<b>Fan/Room Type</b>	<b>Count</b>						

# Summary for Input Data

0.15	In Room Fan	1
0.15	Kitchen	
	In Room Fan Other	4
	Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0
Number of intermittent extract fans	0
Number of passive vents	0
Number of flueless gas fires	0

## 21.0 Fixed Cooling System

22.0 Pressure Testing	Yes
-----------------------	-----

Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

## 22.0 Lighting

No Fixed Lighting	No	Name	Efficacy	Power	Capacity	Count
		Lighting 1	75.00	10.00	750.00	25

## 24.0 Main Heating 1

Percentage of Heat	100.00	%
Database Ref. No.	0	
Fuel Type	Mains gas	
SAP Code	104	
In Winter	88.90	
In Summer	80.30	
Model Name	Gas	
Manufacturer	Gas	
Controls SAP Code	2110	
Delayed Start Stat	Yes	
Burner Control	Modulating	
HETAS approved System	No	
Flue Type	Balanced	
Fan Assisted Flue	Yes	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Underfloor Heating	Yes - Pipes in thin screed	
Flow Temperature	Enter value	
Flow Temperature Value	55.00	
Boiler Interlock	Yes	
Combi boiler type	Standard Combi	

## 25.0 Main Heating 2

None
------

## 26.0 Heat Networks

None
------

# Summary for Input Data

<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										
Summer Immersion	No										
Cold Water Source	From mains										
Bath Count	1										
Supplementary Immersion	No										
Immersion Only Heating Hot Water	No										
<b>28.1 Showers</b>											
<b>Description</b>	<b>Shower Type</b>	<b>Flow Rate [l/min]</b>	<b>Rated Power [kW]</b>	<b>Connected</b>	<b>Connected To</b>						
1	Combi boiler or unvented hot water system	8.00		No							
2	Combi boiler or unvented hot water system	8.00		No							
<b>28.3 Waste Water Heat Recovery System</b>											
<b>29.0 Hot Water Cylinder</b>											
Cylinder Stat	None										
Cylinder In Heated Space	Yes										
Independent Time Control	Yes										
Insulation Type	Measured Loss										
Insulation Thickness Type	Other										
Insulation Thickness	0										
Cylinder Volume	200.00	L									
Loss	1.20	kWh/day									
Pipes insulation	Fully insulated primary pipework										
In Airing Cupboard	Yes										
<b>31.0 Thermal Store</b>											
<b>34.0 Small-scale Hydro</b>											
Connected to dwelling's electricity meter	None										
Electricity Generation	Yes										
Annual											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
<b>Recommendations</b>											
<b>Lower cost measures</b>											
None											
<b>Further measures to achieve even higher standards</b>											
None											

# Summary for Input Data



Property Reference	The SHR6 - DET			Issued on Date	14/10/2025
Assessment Reference	001			Prop Type Ref	The SHR6 - DET
Property	The SHR6 - DET				
SAP Rating	86 B	DER	11.57	TER	9.00
Environmental	88 B	% DER < TER			-28.56
CO <sub>2</sub> Emissions (t/year)	1.6	DFEE	34.44	TFEE	38.51
Compliance Check	See BREL	% DFEE < TFEE			10.55
% DPER < TPER	-37.85	DPER	64.87	TPER	47.06

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, Detached	
Which Floor	0	
2.0 Number of Storeys	2	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	77.21 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	77.21 m <sup>2</sup>	2.61 m

8.0 Living Area	21.67	m <sup>2</sup>
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Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area (m <sup>2</sup> )	Calculation Type
External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	189.95	156.12	0.00	None	33.83	Enter Gross Area	

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	210.38
Block Partitions		Dense block, plasterboard on dabs	75.00	89.29

Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Shelter	Openings	Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	77.21	77.21	None	0.00	Enter Gross Area	0.00	

Description	Storey	Construction	Area (m <sup>2</sup> )
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	77.21

Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	77.21

# Summary for Input Data

## 11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	77.21

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	External Wall 1	North	2.13	0
W1	Windows	External Wall 1	North	11.49	0
W2	Windows	External Wall 1	East	1.68	0
W3	Windows	External Wall 1	West	2.87	0
W4	Windows	External Wall 1	South	15.66	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	22.42	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	14.96	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	51.30	0.01	0.01	RCD
E5 Ground floor (normal)	Non Gov Approved Schemes	38.03	0.05	0.05	RCD
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	19.93	0.05	0.05	RCD
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	18.10	0.04	0.04	RCD
E16 Corner (normal)	Non Gov Approved Schemes	24.98	0.04	0.04	RCD
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	38.03	0.00	0.00	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.10	-0.10	RCD

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

No

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500755

Duct Type

Rigid

Wet Rooms

6

SFP from Installer Commissioning Certificate

No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	5
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys

0

Number of open flues

0

Number of chimneys/flues attached to closed fire

0

Number of flues attached to solid fuel boiler

0

Number of flues attached to other heater

0

Number of blocked chimneys

0

Number of intermittent extract fans

0

# Summary for Input Data

Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>												
	No											
<b>22.0 Pressure Testing</b>												
Designed AP <sub>50</sub>	4.00											
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00											
Database Ref. No.	0											
Fuel Type	Mains gas											
SAP Code	104											
In Winter	88.90											
In Summer	80.30											
Model Name	Gas											
Manufacturer	Gas											
Controls SAP Code	2110											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Flue Type	Balanced											
Fan Assisted Flue	Yes											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
Boiler Interlock	Yes											
Combi boiler type	Standard Combi											
<b>25.0 Main Heating 2</b>												
	None											
<b>26.0 Heat Networks</b>												
	None											
<b>27.0 Secondary Heating</b>												
	None											
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 1											
SAP Code	901											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											
Waste Water Heat Recovery Storage System	No											
Solar Panel	No											
Water use <= 125 litres/person/day	Yes											
Summer Immersion	No											

# Summary for Input Data

Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1
Shower 2	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	None
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

### 31.0 Thermal Store

31.0 Thermal Store	None
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### 34.0 Small-scale Hydro

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes
	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

### Recommendations

#### Lower cost measures

None

#### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR7 - DET			Issued on Date	14/10/2025					
Assessment Reference	001	Prop Type Ref	The SHR7 - DET							
Property	The SHR7 - DET									
SAP Rating	86 B	DER	11.99	TER	9.39					
Environmental	87 B	% DER < TER			-27.69					
CO <sub>2</sub> Emissions (t/year)	2.02	DFEE	39.16	TFEE	39.82					
Compliance Check	See BREL	% DFEE < TFEE			1.64					
% DPER < TPER	-36.25	DPER	66.98	TPER	49.16					
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001					
Client										
<b>SUMMARY FOR INPUT DATA FOR: New Build (As Designed)</b>										
Orientation	North									
Property Tenure	ND									
Transaction Type	6									
Terrain Type	Suburban									
1.0 Property Type	House, Detached									
Which Floor	0									
2.0 Number of Storeys	3									
3.0 Date Built	2025									
3.0 Property Age Band	L									
4.0 Sheltered Sides	2									
5.0 Sunlight/Shade	Average or unknown									
6.0 Thermal Mass Parameter	Precise calculation									
Thermal Mass	145.01 kJ/m <sup>2</sup> K									
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
	Ground floor:	Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	1st Storey:	36.46 m	71.97 m <sup>2</sup>	2.39 m						
	2nd Storey:	34.39 m	68.93 m <sup>2</sup>	2.61 m						
		34.46 m	46.96 m <sup>2</sup>	2.40 m						
8.0 Living Area	18.43 m <sup>2</sup>									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	203.44	170.01	0.00	None	33.43	Enter Gross Area
Dormer Cheek	Timber Frame	Timber framed wall (one layer of plasterboard)	0.24	9.00	7.14	7.14	0.00	None	0.00	Enter Gross Area
Timber Stud Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.24	9.00	42.11	42.11	0.50	Room In Roof	0.00	Enter Gross Area
9.2 Internal Walls						Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )			
Stud Partitions	Plasterboard on timber frame					9.00	282.74			
Block Partitions	Dense block, plasterboard on dabs					75.00	61.48			
10.0 External Roofs						Shelter Factor	Shelter Calculation Type	Openings		
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Code			
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	60.63	60.63	None	0.00	Enter Gross Area	0.00
Exposed Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	22.07	22.07	None	0.00	Enter Gross Area	0.00
Low Level Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	2.84	2.84	None	0.00	Enter Gross Area	0.00
Sloping Ceiling	External Slope Roof	Plasterboard, insulated slope	0.15	9.00	12.75	12.75	None	0.00	Enter Gross Area	0.00

# Summary for Input Data

Dormer Roof	External Flat Roof	Plasterboard, insulated flat roof	0.11	9.00	3.57	3.57	None	0.00	Enter Gross Area	0.00
<b>10.2 Internal Ceilings</b>										
Description	Storey	Construction								Area (m <sup>2</sup> )
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor								115.89
<b>11.0 Heat Loss Floors</b>										
Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )		
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	71.97		
<b>11.2 Internal Floors</b>										
Description	Storey Index	Construction								Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor								18.00 115.89
<b>12.0 Opening Types</b>										
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)	
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63			0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45			1.00	1.30
<b>13.0 Openings</b>										
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch					
Front Door	Doors	External Wall 1	North	2.04	0					
W1	Windows	External Wall 1	North	9.59	0					
W2	Windows	External Wall 1	East	2.16	0					
W3	Windows	External Wall 1	West	2.16	0					
W4	Windows	External Wall 1	South	15.45	0					
Utility Door	Doors	External Wall 1	West	2.04	0					
<b>14.0 Conservatory</b>										
		None								
<b>15.0 Draught Proofing</b>										
		100								%
<b>16.0 Draught Lobby</b>										
		No								
<b>17.0 Thermal Bridging</b>										
<b>17.1 List of Bridges</b>										
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported					
E2 Other lintels (including other steel lintels)	Independently assessed	22.91	0.05	0.05	HiTherm					No
E3 Sill	Non Gov Approved Schemes	20.98	0.02	0.02	RCD					No
E4 Jamb	Non Gov Approved Schemes	55.88	0.01	0.01	RCD					No
E5 Ground floor (normal)	Non Gov Approved Schemes	36.46	0.05	0.05	RCD					No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	18.11	0.05	0.05	RCD					No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	17.58	0.04	0.04	RCD					No
E16 Corner (normal)	Non Gov Approved Schemes	58.58	0.04	0.04	RCD					No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	68.85	0.00	0.00	RCD					No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	26.58	-0.10	-0.10	RCD					No
E13 Gable (insulation at rafter level)	Non Gov Approved Schemes	5.01	0.04	0.04	RCD					No
E24 Eaves (insulation at ceiling level - inverted)	Table K1 - Default	2.84	0.15	0.15						No
R6 Flat ceiling	Independently assessed	15.46	0.06	0.06						No
R7 Flat ceiling (inverted)	Independently assessed	2.41	0.06	0.06						No
R8 Roof to wall (rafter)	Independently assessed	23.40	0.06	0.06						No
R9 Roof to wall (flat ceiling)	Independently assessed	8.35	0.06	0.06						No
Y-value	0.02									W/m <sup>2</sup> K
<b>19.0 Mechanical Ventilation</b>										
<b>Mechanical Ventilation</b>										
Mechanical Ventilation System Present	Yes									
Approved Installation	No									
Mechanical Ventilation data Type	Database									
Type	Mechanical extract ventilation - decentralised									
MV Reference Number	500755									
Duct Type	Rigid									
Wet Rooms	7									
SFP from Installer Commissioning Certificate	No									
<b>19.1 Mechanical extract ventilation - Decentralised</b>										
SFP	Fan/Room Type	Count								
0.15	In Room Fan	1								
	Kitchen									
0.15	In Room Fan Other	6								
	Wet Room									
0.00	In Duct Fan Kitchen	0								

# Summary for Input Data

0.00	In Duct Fan Other	0
0.11	Wet Room	
0.14	Through Wall Fan	0
	Kitchen	
	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0
Number of intermittent extract fans	0
Number of passive vents	0
Number of flueless gas fires	0

## 21.0 Fixed Cooling System

No

## 22.0 Pressure Testing

Designed AP <sub>50</sub>	Yes	
	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa
Property Tested?	Yes	

Test Method

Blower Door

## 22.0 Lighting

No Fixed Lighting

Name	Efficacy	Power	Capacity	Count
Lighting 1	75.00	10.00	750.00	10

## 24.0 Main Heating 1

Percentage of Heat	100.00	%
Database Ref. No.	0	
Fuel Type	Mains gas	
SAP Code	104	
In Winter	88.90	
In Summer	80.30	
Model Name	Gas	
Manufacturer	Gas	
Controls SAP Code	2110	
Delayed Start Stat	Yes	
Burner Control	Modulating	
HETAS approved System	No	
Flue Type	Balanced	
Fan Assisted Flue	Yes	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	55.00	
Boiler Interlock	Yes	
Combi boiler type	Standard Combi	

## 25.0 Main Heating 2

None

## 26.0 Heat Networks

None

# Summary for Input Data

27.0 Secondary Heating	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										
Summer Immersion	No										
Cold Water Source	From mains										
Bath Count	1										
Supplementary Immersion	No										
Immersion Only Heating Hot Water	No										
<b>28.1 Showers</b>											
<b>Description</b>	<b>Shower Type</b>	<b>Flow Rate [l/min]</b>	<b>Rated Power [kW]</b>	<b>Connected</b>	<b>Connected To</b>						
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1						
Shower 2	Combi boiler or unvented hot water system	8.00		No							
Shower 3	Combi boiler or unvented hot water system	8.00		No							
Shower 4	Combi boiler or unvented hot water system	8.00		No							
<b>28.3 Waste Water Heat Recovery System</b>											
<b>29.0 Hot Water Cylinder</b>	None										
Cylinder Stat	Yes										
Cylinder In Heated Space	Yes										
Independent Time Control	Yes										
Insulation Type	Measured Loss										
Cylinder Volume	250.00	L									
Loss	1.40	kWh/day									
Pipes insulation	Fully insulated primary pipework										
In Airing Cupboard	No										
<b>31.0 Thermal Store</b>	None										
<b>34.0 Small-scale Hydro</b>	None										
Electricity Generated	0.00										
Apportioned	0.00	kWh/Year									
Connected to dwelling's electricity meter	Yes										
Electricity Generation	Annual										
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

**Recommendations**
**Lower cost measures**

None

**Further measures to achieve even higher standards**

None

# Summary for Input Data



Property Reference	The Tillman Life - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The Tillman Life - SD	
Property	The Tillman Life - SD				
SAP Rating	85 B	DER	13.55	TER	10.74
Environmental	88 B	% DER < TER			-26.16
CO <sub>2</sub> Emissions (t/year)	1.17	DFEE	30.59	TFEE	34.57
Compliance Check	See BREL	% DFEE < TFEE			11.52
% DPER < TPER	-35.85	DPER	76.28	TPER	56.15

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Semi-Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00 kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	46.73 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	46.73 m <sup>2</sup>	2.61 m

8.0 Living Area	22.55	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	96.67	82.81	0.00	None	13.86	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	48.90	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	144.80
Block Partitions		Dense block, plasterboard on dabs	75.00	17.41

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof		External Plane Roof	0.09	9.00	46.73	46.73	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
Description				

# Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	46.73			
<b>11.0 Heat Loss Floors</b>						
Description	Type	Storey Index	Construction			
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted			
			U-Value (W/m <sup>2</sup> K) 0.12			
			Shelter Code None			
			Shelter Factor 0.00			
			Kappa (kJ/m <sup>2</sup> K) 75.00			
			Area (m <sup>2</sup> ) 46.73			
<b>11.2 Internal Floors</b>						
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )			
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 46.73			
<b>12.0 Opening Types</b>						
Description	Data Source	Type	Glazing			
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			
			Glazing Gap 0.63 0.45			
			Filling Type 0.70 1.00			
			G-value 0.45			
			Frame Type Frame Factor U Value (W/m <sup>2</sup> K) 1.30 1.30			
<b>13.0 Openings</b>						
Name	Opening Type	Location	Orientation Area (m <sup>2</sup> ) Pitch			
Front Door	Doors	External Wall 1	North 2.15 0			
W1	Windows	External Wall 1	North 4.79 0			
W4	Windows	External Wall 1	South 4.77 0			
Rear Door	Doors	External Wall 1	South 2.15 0			
<b>14.0 Conservatory</b>						
		None				
<b>15.0 Draught Proofing</b>						
		100	%			
<b>16.0 Draught Lobby</b>						
		No				
<b>17.0 Thermal Bridging</b>						
<b>17.1 List of Bridges</b>						
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported	
E2 Other lintels (including other steel lintels)	Independently assessed	10.09	0.05	0.05	HiTherm	No
E3 Sill	Non Gov Approved Schemes	8.05	0.02	0.02	RCD	No
E4 Jamb	Non Gov Approved Schemes	22.65	0.01	0.01	RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.34	0.05	0.05	RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.57	0.05	0.05	RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.80	0.04	0.04	RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	9.99	0.04	0.04	RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.78	0.04	0.04	RCD	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.80	0.00	0.07	Table K1	No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.80	0.03	0.03	RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	19.37	0.00	0.00	RCD	No
<b>19.0 Mechanical Ventilation</b>						
<b>Mechanical Ventilation</b>						
Mechanical Ventilation System Present	Yes					
Approved Installation	Yes					
Mechanical Ventilation data Type	Database					
Type	Mechanical extract ventilation - decentralised					
MV Reference Number	500755					
Duct Type	Rigid					
Wet Rooms	3					
SFP from Installer Commissioning Certificate	No					
<b>19.1 Mechanical extract ventilation - Decentralised</b>						
SFP	Fan/Room Type	Count				
0.15	In Room Fan	1				
	Kitchen					
0.15	In Room Fan Other	2				
	Wet Room					
0.00	In Duct Fan Kitchen	0				
0.00	In Duct Fan Other	0				
	Wet Room					
0.11	Through Wall Fan	0				
	Kitchen					
0.14	Through Wall Fan	0				
	Other Wet Room					
<b>20.0 Fans, Open Fireplaces, Flues</b>						
Number of open chimneys	0					
Number of open flues	0					
Number of chimneys/flues attached to closed fire	0					

# Summary for Input Data

Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>	No										
No Fixed Lighting	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Manufacturer										
Percentage of Heat	100.00	%									
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>	Main Heating 1										
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										

# Summary for Input Data

Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

31.0 Thermal Store	None
--------------------	------

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Watchmaker - DET			Issued on Date	14/10/2025					
Assessment Reference	001	Prop Type Ref	The Watchmaker - DET							
Property	The Watchmaker - DET									
SAP Rating	86 B	DER	11.78	TER	8.56					
Environmental	88 B	% DER < TER			-37.62					
CO <sub>2</sub> Emissions (t/year)	1.84	DFEE	37.07	TFEE	38.04					
Compliance Check	See BREL	% DFEE < TFEE			2.55					
% DPER < TPER	-46.97	DPER	65.91	TPER	44.85					
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001					
Client										
<b>SUMMARY FOR INPUT DATA FOR: New Build (As Designed)</b>										
Orientation	North									
Property Tenure	ND									
Transaction Type	6									
Terrain Type	Suburban									
1.0 Property Type	House, Detached									
Which Floor	0									
2.0 Number of Storeys	2									
3.0 Date Built	2025									
3.0 Property Age Band	L									
4.0 Sheltered Sides	2									
5.0 Sunlight/Shade	Average or unknown									
6.0 Thermal Mass Parameter	Precise calculation									
Thermal Mass	0.00 kJ/m <sup>2</sup> K									
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
		Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	Ground floor:	1.00 m	86.40 m <sup>2</sup>	2.39 m						
	1st Storey:	1.00 m	88.33 m <sup>2</sup>	2.61 m						
8.0 Living Area	17.77 m <sup>2</sup>									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	190.31	156.42	0.00	None	33.89	Enter Gross Area
9.2 Internal Walls						Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )			
Description	Construction					9.00	215.37			
Stud Partitions	Plasterboard on timber frame					75.00	110.85			
Block Partitions	Dense block, plasterboard on dabs									
10.0 External Roofs						Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )			
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Openings	Calculation Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	88.33	88.33	None	0.00	Enter Gross Area	0.00
10.2 Internal Ceilings						Area (m <sup>2</sup> )				
Description	Storey	Construction						Area (m <sup>2</sup> )		
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor						88.33		
11.0 Heat Loss Floors						Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )			
Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )		
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	86.40		

# Summary for Input Data

Heatloss Floor 2	Exposed Floor - Timber	+1	Timber exposed floor, insulation between joists	0.15	None	0.00	20.00	1.97
<b>11.2 Internal Floors</b>								
<b>Description</b>	<b>Storey Index</b>	<b>Construction</b>				<b>Kappa (kJ/m<sup>2</sup>K)</b>	<b>Area (m<sup>2</sup>)</b>	
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor				9.00	88.33	
<b>12.0 Opening Types</b>								
<b>Description</b>	<b>Data Source</b>	<b>Type</b>	<b>Glazing</b>	<b>Glazing Gap</b>	<b>Filling Type</b>	<b>G-value</b>	<b>Frame Type</b>	<b>Frame Factor</b>
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70
Windows	BFRCA, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
<b>13.0 Openings</b>								
<b>Name</b>	<b>Opening Type</b>	<b>Location</b>	<b>Orientation</b>	<b>Area (m<sup>2</sup>)</b>	<b>Pitch</b>			
Front Door	Doors	External Wall 1	North	2.02	0			
W1	Windows	External Wall 1	North	12.58	0			
W2	Windows	External Wall 1	East	0.67	0			
W3	Windows	External Wall 1	West	0.67	0			
W4	Windows	External Wall 1	South	15.98	0			
Utility Door	Doors	External Wall 1	South	1.97	0			
<b>14.0 Conservatory</b>								
		None						
<b>15.0 Draught Proofing</b>								
		100					%	
<b>16.0 Draught Lobby</b>								
		No						
<b>17.0 Thermal Bridging</b>								
<b>17.1 List of Bridges</b>								
<b>Bridge Type</b>	<b>Source Type</b>	<b>Length</b>	<b>Psi</b>	<b>Adjusted Reference:</b>	<b>Imported</b>			
E2 Other lintels (including other steel lintels)	Independently assessed	23.12	0.05	0.05		No		
E3 Sill	Independently assessed	16.17	0.02	0.02	RCD	No		
E4 Jamb	Independently assessed	46.80	0.01	0.01	RCD	No		
E5 Ground floor (normal)	Independently assessed	37.40	0.05	0.05	RCD	No		
E10 Eaves (insulation at ceiling level)	Independently assessed	19.15	0.05	0.05	RCD	No		
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	19.62	0.04	0.04	RCD	No		
E16 Corner (normal)	Non Gov Approved Schemes	25.20	0.04	0.04	RCD	No		
E6 Intermediate floor within a dwelling	Independently assessed	34.47	0.00	0.00	RCD	No		
E20 Exposed floor (normal)	Table K1 - Default	4.27	0.32	0.32		No		
E21 Exposed floor (inverted)	Table K1 - Default	2.93	0.32	0.32		No		
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.22	-0.10	-0.10	RCD	No		
<b>19.0 Mechanical Ventilation</b>								
<b>Mechanical Ventilation</b>								
Mechanical Ventilation System Present	Yes							
Approved Installation	No							
Mechanical Ventilation data Type	Database							
Type	Mechanical extract ventilation - decentralised							
MV Reference Number	500755							
Duct Type	Rigid							
Wet Rooms	6							
SFP from Installer Commissioning Certificate	No							
<b>19.1 Mechanical extract ventilation - Decentralised</b>								
<b>SFP</b>	<b>Fan/Room Type</b>	<b>Count</b>						
0.15	In Room Fan	1						
	Kitchen							
0.15	In Room Fan Other	5						
	Wet Room							
0.00	In Duct Fan Kitchen	0						
0.00	In Duct Fan Other	0						
	Wet Room							
0.11	Through Wall Fan	0						
	Kitchen							
0.14	Through Wall Fan	0						
	Other Wet Room							
<b>20.0 Fans, Open Fireplaces, Flues</b>								
Number of open chimneys	0							
Number of open flues	0							
Number of chimneys/flues attached to closed fire	0							
Number of flues attached to solid fuel boiler	0							

# Summary for Input Data

Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<hr/>											
<b>21.0 Fixed Cooling System</b>	No										
<hr/>											
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<hr/>											
<b>22.0 Lighting</b>	No										
No Fixed Lighting	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<hr/>											
<b>24.0 Main Heating 1</b>	Manufacturer										
Percentage of Heat	100.00										
Database Ref. No.	0										
Fuel Type	Mains gas										
SAP Code	104										
In Winter	88.90										
In Summer	80.30										
Model Name	Gas										
Manufacturer	Gas										
Controls SAP Code	2110										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Flue Type	Balanced										
Fan Assisted Flue	Yes										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
Boiler Interlock	Yes										
Combi boiler type	Standard Combi										
<hr/>											
<b>25.0 Main Heating 2</b>	None										
<hr/>											
<b>26.0 Heat Networks</b>	None										
<hr/>											
<b>27.0 Secondary Heating</b>	None										
<hr/>											
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										

# Summary for Input Data

Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 2	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1
Shower 1	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	None
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

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## 12.5. APPENDIX E: SAMPLE SAP SUMMARY INFORMATION SHEETS (BE GREEN)

# Summary for Input Data



Property Reference	2 Bed EF Flat	Issued on Date	14/10/2025
Assessment Reference	001	Prop Type Ref	2 Bed EF Flat
Property	2 Bed EF Flat		
SAP Rating	72 C	DER	7.52
Environmental	94 A	% DER < TER	45.39
CO <sub>2</sub> Emissions (t/year)	0.45	DFEE	43.25
Compliance Check	See BREL	% DFEE < TFEE	-8.78
% DPER < TPER	-6.52	DPER	77.40
TPER	72.66		

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	Flat, Mid-Terrace	
Position of Flat	Mid-floor flat	
Which Floor	2	
2.0 Number of Storeys	1	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	258.40	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	Yes	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	70.01 m <sup>2</sup>	2.40 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	24.07	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	42.64	31.93	0.00	None
Communal Wall		Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure		0.26	110.00	19.01	16.89	0.50	Stairwell Access Corridor 1

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	20.93	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	123.56
Block Partitions		Dense block, plasterboard on dabs	75.00	38.02

10.1 Party Ceilings		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	70.01

# Summary for Input Data

## 11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Exposed Floor	Exposed Floor - Solid	Lowest occupied	Other	0.15	None	0.00	75.00	70.01

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors Windows	Manufacturer BFRC, BSI or CERTASS data	Solid Door Window	Double Low-E Soft 0.1 Double Low-E Soft 0.1			0.63 0.45		1.00	1.00 1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	Communal Wall	North	2.12	0
W1	Windows	External Wall 1	North	7.95	0
W4	Windows	External Wall 1	West	2.76	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	8.30	0.05	0.05	No
E3 Sill	Independently assessed	4.86	0.02	0.02	No
E4 Jamb	Independently assessed	19.80	0.01	0.01	No
E18 Party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	8.72	0.00	0.07	No
E7 Party floor between dwellings (in blocks of flats)	Independently assessed	25.69	0.05	0.05	No
E16 Corner (normal)	Non Gov Approved Schemes	7.20	0.04	0.04	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.40	-0.10	-0.10	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No
E20 Exposed floor (normal)	Table K1 - Default	25.69	0.32	0.32	No
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	8.72	0.48	0.48	No

Y-value

0.11

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

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	No
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500755
Duct Type	Rigid
Wet Rooms	3
SFP from Installer Commissioning Certificate	No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	2
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0

# Summary for Input Data

Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>											
	No										
<b>22.0 Pressure Testing</b>											
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>											
Percentage of Heat	100.00	%									
Database Ref. No.	0										
Fuel Type	Electricity										
SAP Code	691										
In Winter	100.00										
In Summer	324.52										
Controls SAP Code	2605										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
<b>25.0 Main Heating 2</b>											
Percentage of Heat	0.00	%									
Database Ref. No.	104014										
Fuel Type	Electricity										
SAP Code	0										
In Winter	0.00										
In Summer	324.52										
Model Name	aroSTOR 200ltr										
Manufacturer	Vaillant Group UK Ltd										
Controls	2100										
Delayed Start Stat	No										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Flow Temperature	Enter value										
<b>26.0 Heat Networks</b>											
	None										
<b>27.0 Secondary Heating</b>											
	None										

# Summary for Input Data

## 28.0 Water Heating

Water Heating	Main Heating 2
SAP Code	914
Flue Gas Heat Recovery System	No
Waste Water Heat Recovery Instantaneous System 1	No
Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	Internal Store
Cylinder In Heated Space	No
Independent Time Control	No
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.61
In Airing Cupboard	No

### 31.0 Thermal Store

None
------

### 34.0 Small-scale Hydro

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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### Recommendations

#### Lower cost measures

None

#### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	2 Bed GF Flat	Issued on Date	14/10/2025
Assessment Reference	001	Prop Type Ref	2 Bed GF Flat
Property	2 Bed GF Flat		
SAP Rating	78 C	DER	5.96
Environmental	95 A	% DER < TER	53.87
CO <sub>2</sub> Emissions (t/year)	0.35	DFEE	33.05
Compliance Check	See BREL	% DFEE < TFEE	35.86
% DPER < TPER	9.72	DPER	61.47
TPER	12.92	TPER	7.86
Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	Flat, Mid-Terrace	
Position of Flat	Ground-floor flat	
Which Floor	1	
2.0 Number of Storeys	1	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	Yes	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	70.01 m <sup>2</sup>	2.40 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	24.07	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	42.64	31.93	0.00	None
Communal Wall		Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure		0.26	110.00	19.01	16.89	0.50	Stairwell Access Corridor 1

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	20.93	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	123.56
Block Partitions		Dense block, plasterboard on dabs	75.00	38.02

10.1 Party Ceilings		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	70.01

# Summary for Input Data

## 11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	70.01

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.00
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	Communal Wall	North	2.12	0
W1	Windows	External Wall 1	North	7.95	0
W4	Windows	External Wall 1	West	2.76	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	8.30	0.05	0.05	No
E3 Sill	Independently assessed	4.86	0.02	0.02	RCD
E4 Jamb	Independently assessed	19.80	0.01	0.01	RCD
E5 Ground floor (normal)	Independently assessed	25.69	0.05	0.05	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	RCD
P1 Party wall - Ground floor	Non Gov Approved Schemes	8.72	0.04	0.04	RCD
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	8.72	0.00	0.07	No
E7 Party floor between dwellings (in blocks of flats)	Independently assessed	25.69	0.05	0.05	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.20	0.04	0.04	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.40	-0.10	-0.10	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

No

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500755

Duct Type

Rigid

Wet Rooms

3

SFP from Installer Commissioning Certificate

No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	2
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys

0

Number of open flues

0

Number of chimneys/flues attached to closed fire

0

Number of flues attached to solid fuel boiler

0

Number of flues attached to other heater

0

Number of blocked chimneys

0

Number of intermittent extract fans

0

# Summary for Input Data

Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>												
22.0 Pressure Testing	Yes											
Designed AP <sub>50</sub>	4.00											
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00											
Database Ref. No.	0											
Fuel Type	Electricity											
SAP Code	691											
Controls SAP Code	2605											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
<b>25.0 Main Heating 2</b>												
Percentage of Heat	0.00											
Database Ref. No.	104014											
Fuel Type	Electricity											
SAP Code	0											
Model Name	aroSTOR 200ltr											
Manufacturer	Vaillant Group UK Ltd											
Controls	2100											
Delayed Start Stat	No											
Burner Control	Modulating											
HETAS approved System	No											
Is MHS Pumped	Pump in heated space											
Flow Temperature	Enter value											
<b>26.0 Heat Networks</b>												
<b>27.0 Secondary Heating</b>												
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 2											
SAP Code	914											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											

# Summary for Input Data

Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Internal Store
Cylinder Stat	No
Cylinder In Heated Space	No
Independent Time Control	No
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.61
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	2 Bed MF Flat	Issued on Date	14/10/2025
Assessment Reference	001	Prop Type Ref	2 Bed MF Flat
Property	2 Bed MF Flat		
SAP Rating	82 B	DER	4.98
Environmental	96 A	% DER < TER	53.97
CO <sub>2</sub> Emissions (t/year)	0.29	DFEE	26.68
Compliance Check	See BREL	% DFEE < TFEE	-2.45
% DPER < TPER	9.24	DPER	51.51
TPER	56.75		

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	Flat, Mid-Terrace	
Position of Flat	Mid-floor flat	
Which Floor	2	
2.0 Number of Storeys	1	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	Yes	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	70.01 m <sup>2</sup>	2.40 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	24.07	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	42.64	31.93	0.00	None
Communal Wall		Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure		0.26	110.00	19.01	16.89	0.50	Stairwell Access Corridor 1

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	20.93	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	123.56
Block Partitions		Dense block, plasterboard on dabs	75.00	38.02

10.1 Party Ceilings		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	70.01

# Summary for Input Data

## 11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	70.71

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.00
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	Communal Wall	North	2.12	0
W1	Windows	External Wall 1	North	7.95	0
W4	Windows	External Wall 1	West	2.76	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	8.30	0.05	0.05	No
E3 Sill	Independently assessed	4.86	0.02	0.02	RCD
E4 Jamb	Independently assessed	19.80	0.01	0.01	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	RCD
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	17.44	0.00	0.07	No
E7 Party floor between dwellings (in blocks of flats)	Independently assessed	48.37	0.05	0.05	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.20	0.04	0.04	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.40	-0.10	-0.10	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	3.00	0.30	0.30	No

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	No
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500755
Duct Type	Rigid
Wet Rooms	3
SFP from Installer Commissioning Certificate	No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	2
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0

# Summary for Input Data

Number of intermittent extract fans	0												
Number of passive vents	0												
Number of flueless gas fires	0												
<b>21.0 Fixed Cooling System</b>	No												
<b>22.0 Pressure Testing</b>	Yes												
Designed AP <sub>50</sub>	4.00												
Property Tested?	Yes												
Test Method	Blower Door												
<b>22.0 Lighting</b>													
No Fixed Lighting	<table border="1"> <thead> <tr> <th>No</th> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td></td> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	No	Name	Efficacy	Power	Capacity	Count		Lighting 1	75.00	10.00	750.00	10
No	Name	Efficacy	Power	Capacity	Count								
	Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>	SAP table												
Percentage of Heat	100.00												
Database Ref. No.	0												
Fuel Type	Electricity												
SAP Code	691												
Controls SAP Code	2605												
Delayed Start Stat	Yes												
Burner Control	Modulating												
HETAS approved System	No												
Is MHS Pumped	Pump in heated space												
Heating Pump Age	2013 or later												
Heat Emitter	Radiators												
Flow Temperature	Enter value												
Flow Temperature Value	55.00												
<b>25.0 Main Heating 2</b>	Database												
Percentage of Heat	0.00												
Database Ref. No.	104014												
Fuel Type	Electricity												
SAP Code	0												
Model Name	aroSTOR 200ltr												
Manufacturer	Vaillant Group UK Ltd												
Controls	2100												
Delayed Start Stat	No												
Burner Control	Modulating												
HETAS approved System	No												
Is MHS Pumped	Pump in heated space												
Flow Temperature	Enter value												
<b>26.0 Heat Networks</b>	None												
<b>27.0 Secondary Heating</b>	None												
<b>28.0 Water Heating</b>													
Water Heating	Main Heating 2												
SAP Code	914												
Flue Gas Heat Recovery System	No												
Waste Water Heat Recovery Instantaneous System 1	No												

# Summary for Input Data

Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Internal Store
Cylinder Stat	No
Cylinder In Heated Space	No
Independent Time Control	No
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.61
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Electricity Generated	0.00	
Apportioned	0.00	kWh/Year
Connected to dwelling's electricity meter	Yes	
Electricity Generation	Annual	

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	2 Bed TF Flat	Issued on Date	14/10/2025
Assessment Reference	001	Prop Type Ref	2 Bed TF Flat
Property	2 Bed TF Flat		
SAP Rating	76 C	DER	6.55
Environmental	95 A	% DER < TER	13.46
CO <sub>2</sub> Emissions (t/year)	0.4	DFEE	51.34
Compliance Check	See BREL	% DFEE < TFEE	38.46
% DPER < TPER	4.70	DPER	1.03
		TPER	70.93

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	Flat, Mid-Terrace	
Position of Flat	Top-floor flat	
Which Floor	3	
2.0 Number of Storeys	1	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	Yes	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	70.81 m <sup>2</sup>	2.40 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	27.66	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure		0.24	60.00	50.27	38.22	0.00	None
Communal Wall		Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure		0.26	110.00	34.84	32.72	0.50	Stairwell Access Corridor 1

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	15.43	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	116.33

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof		External Plane Roof	Plasterboard, insulated at ceiling level		0.09	9.00	70.81	70.81	None	Enter Gross Area

# Summary for Input Data

## 11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	70.81

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.00
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	Communal Wall	North	2.12	0
W1	Windows	External Wall 1	North	8.41	0
W4	Windows	External Wall 1	East	3.64	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	9.62	0.05	0.05	No
E3 Sill	Independently assessed	6.18	0.02	0.02	RCD
E4 Jamb	Independently assessed	23.70	0.01	0.01	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	RCD
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	6.43	0.00	0.07	No
E7 Party floor between dwellings (in blocks of flats)	Independently assessed	32.46	0.05	0.05	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.20	0.04	0.04	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.40	-0.10	-0.10	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	2.40	0.04	0.04	No
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	3.00	0.30	0.30	No
E10 Eaves (insulation at ceiling level)	Independently assessed	35.46	0.05	0.05	RCD
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	6.43	0.03	0.03	RCD
					No
					No

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	No
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500755
Duct Type	Rigid
Wet Rooms	3
SFP from Installer Commissioning Certificate	No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	2
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0

# Summary for Input Data

Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>											
	No										
<b>22.0 Pressure Testing</b>											
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>											
Percentage of Heat	100.00										
Database Ref. No.	0										
Fuel Type	Electricity										
SAP Code	691										
Controls SAP Code	2605										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
<b>25.0 Main Heating 2</b>											
Percentage of Heat	0.00										
Database Ref. No.	104014										
Fuel Type	Electricity										
SAP Code	0										
Model Name	aroSTOR 200ltr										
Manufacturer	Vaillant Group UK Ltd										
Controls	2100										
Delayed Start Stat	No										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Flow Temperature	Enter value										
<b>26.0 Heat Networks</b>											
<b>27.0 Secondary Heating</b>											
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 2										
SAP Code	914										
Flue Gas Heat Recovery System	No										

# Summary for Input Data

Waste Water Heat Recovery Instantaneous System 1	No
Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Internal Store
Cylinder Stat	No
Cylinder In Heated Space	No
Independent Time Control	No
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.61
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	
Electricity Generation	Annual

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Baker Life - MT			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The Baker Life - MT	
Property	The Baker Life - MT				
SAP Rating	86 B	DER	3.35	TER	10.22
Environmental	97 A	% DER < TER			67.22
CO <sub>2</sub> Emissions (t/year)	0.25	DFEE	26.41	TFEE	29.11
Compliance Check	See BREL	% DFEE < TFEE			9.28
% DPER < TPER	34.00	DPER	35.21	TPER	53.34

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Mid-Terrace
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	39.97 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	39.97 m <sup>2</sup>	2.61 m

8.0 Living Area	19.59	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	40.77	28.99	0.00	None	11.78	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	97.81	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	115.22
Block Partitions		Dense block, plasterboard on dabs	75.00	14.41

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	39.97	39.97	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
Description				

# Summary for Input Data



Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	39.97						
<b>11.0 Heat Loss Floors</b>									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m <sup>2</sup> K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m <sup>2</sup> K) 75.00						
			Area (m <sup>2</sup> ) 39.97						
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 39.97						
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch				
Front Door	Doors	External Wall 1	North	2.15	0				
W1	Windows	External Wall 1	North	3.53	0				
W4	Windows	External Wall 1	South	3.95	0				
Rear Door	Doors	External Wall 1	South	2.15	0				
<b>14.0 Conservatory</b>				None					
<b>15.0 Draught Proofing</b>				100	%				
<b>16.0 Draught Lobby</b>				No					
<b>17.0 Thermal Bridging</b>				Calculate Bridges					
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	8.28	0.05	0.05	No				
E3 Sill	Non Gov Approved Schemes	6.24	0.02	0.02	No				
E4 Jamb	Non Gov Approved Schemes	20.25	0.01	0.01	No				
E5 Ground floor (normal)	Non Gov Approved Schemes	8.16	0.05	0.05	No				
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	8.16	0.05	0.05	No				
E18 Party wall between dwellings	Non Gov Approved Schemes	19.98	0.05	0.05	No				
P1 Party wall - Ground floor	Non Gov Approved Schemes	19.58	0.04	0.04	No				
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	19.58	0.00	0.07	No				
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	19.58	0.03	0.03	No				
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	8.16	0.00	0.00	No				
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	No								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Duct Type	Rigid								
Wet Rooms	3								
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	2							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.11	Through Wall Fan	0							
	Kitchen								
0.14	Through Wall Fan	0							
	Other Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									
Number of open chimneys	0								
Number of open flues	0								
Number of chimneys/flues attached to closed fire	0								
Number of flues attached to solid fuel boiler	0								

# Summary for Input Data

Number of flues attached to other heater	0											
Number of blocked chimneys	0											
Number of intermittent extract fans	0											
Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>												
22.0 Pressure Testing	Yes											
Designed AP <sub>50</sub>	4.00											
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00											
Database Ref. No.	104431											
Fuel Type	Electricity											
SAP Code	0											
Model Name	aroTHERM plus 7kW + AI											
Manufacturer	Vaillant Group UK Ltd											
Controls SAP Code	2207											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
<b>25.0 Main Heating 2</b>												
<b>26.0 Heat Networks</b>												
<b>27.0 Secondary Heating</b>												
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 1											
SAP Code	901											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											
Waste Water Heat Recovery Storage System	No											
Solar Panel	No											
Water use <= 125 litres/person/day	Yes											
Summer Immersion	No											
Cold Water Source	From mains											
Bath Count	1											
Supplementary Immersion	No											

# Summary for Input Data



Immersion Only Heating Hot Water

No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Showers	Combi boiler or unvented hot water system	8.00	9.30	No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

## 29.0 Hot Water Cylinder

Cylinder Stat	Hot Water Cylinder
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Baker Life - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The Baker Life - SD	
Property	The Baker Life - SD				
SAP Rating	85 B	DER	3.62	TER	11.41
Environmental	97 A	% DER < TER			68.27
CO <sub>2</sub> Emissions (t/year)	0.27	DFEE	31.08	TFEE	35.31
Compliance Check	See BREL	% DFEE < TFEE			12.00
% DPER < TPER	36.41	DPER	37.99	TPER	59.74

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Semi-Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
	Ground floor: 1.00 m 1st Storey: 1.00 m	39.97 m <sup>2</sup> 39.97 m <sup>2</sup>	2.39 m 2.61 m

8.0 Living Area	19.59	m <sup>2</sup>
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9.0 External Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
	External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	89.58	77.80	0.00	None	11.78	Enter Gross Area

9.1 Party Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter	Shelter
	Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	48.89	0.00	None	None

9.2 Internal Walls	Description	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
	Stud Partitions Block Partitions	Plasterboard on timber frame Dense block, plasterboard on dabs	9.00 75.00	115.22 14.41

10.0 External Roofs	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Shelter	Calculation Type	Openings
	Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	39.97	39.97	None	0.00	Enter Gross Area	0.00	Area

10.2 Internal Ceilings	Description	Storey	Construction	Area (m <sup>2</sup> )		
				1	2	3

# Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	39.97			
<b>11.0 Heat Loss Floors</b>						
Description	Type	Storey Index	Construction			
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted			
			U-Value (W/m <sup>2</sup> K) 0.12			
			Shelter Code None			
			Shelter Factor 0.00			
			Kappa (kJ/m <sup>2</sup> K) 75.00			
			Area (m <sup>2</sup> ) 39.97			
<b>11.2 Internal Floors</b>						
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )			
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 39.97			
<b>12.0 Opening Types</b>						
Description	Data Source	Type	Glazing			
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			
			Glazing Gap 0.63 0.45			
			Filling Type RCD			
			G-value 0.70 1.00			
			Frame Type Frame Factor U Value (W/m <sup>2</sup> K) 1.30 1.30			
<b>13.0 Openings</b>						
Name	Opening Type	Location	Orientation Area (m <sup>2</sup> ) Pitch			
Front Door	Doors	External Wall 1	North 2.15 0			
W1	Windows	External Wall 1	North 3.53 0			
W4	Windows	External Wall 1	South 3.95 0			
Rear Door	Doors	External Wall 1	South 2.15 0			
<b>14.0 Conservatory</b>						
		None				
<b>15.0 Draught Proofing</b>						
		100	%			
<b>16.0 Draught Lobby</b>						
		No				
<b>17.0 Thermal Bridging</b>						
<b>17.1 List of Bridges</b>						
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported	
E2 Other lintels (including other steel lintels)	Independently assessed	8.28	0.05	0.05	HiTherm	No
E3 Sill	Non Gov Approved Schemes	6.24	0.02	0.02	RCD	No
E4 Jamb	Non Gov Approved Schemes	20.25	0.01	0.01	RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	17.91	0.05	0.05	RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	8.16	0.05	0.05	RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.79	0.04	0.04	RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	9.99	0.04	0.04	RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.78	0.04	0.04	RCD	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.79	0.00	0.07	Table K1	No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.79	0.03	0.03	RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	17.96	0.00	0.00	RCD	No
<b>19.0 Mechanical Ventilation</b>						
<b>Mechanical Ventilation</b>						
Mechanical Ventilation System Present	Yes					
Approved Installation	Yes					
Mechanical Ventilation data Type	Database					
Type	Mechanical extract ventilation - decentralised					
MV Reference Number	500755					
Duct Type	Rigid					
Wet Rooms	3					
SFP from Installer Commissioning Certificate	No					
<b>19.1 Mechanical extract ventilation - Decentralised</b>						
SFP	Fan/Room Type	Count				
0.15	In Room Fan	1				
	Kitchen					
0.15	In Room Fan Other	2				
	Wet Room					
0.00	In Duct Fan Kitchen	0				
0.00	In Duct Fan Other	0				
	Wet Room					
0.11	Through Wall Fan	0				
	Kitchen					
0.14	Through Wall Fan	0				
	Other Wet Room					
<b>20.0 Fans, Open Fireplaces, Flues</b>						
Number of open chimneys	0					
Number of open flues	0					
Number of chimneys/flues attached to closed fire	0					

# Summary for Input Data

Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Database										
Percentage of Heat	100.00	%									
Database Ref. No.	104431										
Fuel Type	Electricity										
SAP Code	0										
Model Name	aroTHERM plus 7kW + AI										
Manufacturer	Vaillant Group UK Ltd										
Controls SAP Code	2207										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										
Summer Immersion	No										
Cold Water Source	From mains										
Bath Count	1										

# Summary for Input Data



Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Showers	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Hot Water Cylinder
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Draper - DET			Issued on Date	14/10/2025
Assessment Reference	001			Prop Type Ref	The Draper - DET
Property	The Draper - DET				
SAP Rating	84 B	DER	3.20	TER	8.00
Environmental	97 A	% DER < TER			60.00
CO <sub>2</sub> Emissions (t/year)	0.59	DFEE	39.86	TFEE	40.76
Compliance Check	See BREL	% DFEE < TFEE			2.20
% DPER < TPER	21.95	DPER	33.13	TPER	42.45
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001
Client					

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements	Heat Loss Perimeter		Internal Floor Area		Unheated Space Floor Area		Average Storey Height	
	Ground floor:	1.00 m	86.70 m <sup>2</sup>	1st Storey:	1.00 m	119.05 m <sup>2</sup>	32.35 m <sup>2</sup>	2.39 m

8.0 Living Area	24.45	m <sup>2</sup>
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9.0 External Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Area Calculation Type	
External Wall 1	Cavity Wall	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	218.54	183.52	0.00	None	35.02	Enter Gross Area
Garage Wall	Cavity Wall	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	23.40	23.40	0.00	None	0.00	Enter Gross Area

9.2 Internal Walls	Description	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions	Plasterboard on timber frame		9.00	300.07
Block Partitions	Dense block, plasterboard on dabs		75.00	23.90

10.0 External Roofs	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Shelter Calculation	
											Type
Cold Roof	External Plane Roof	External Plane	Plasterboard, insulated at ceiling level	0.09	9.00	119.05	119.05	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings	Description	Storey	Construction	Area (m <sup>2</sup> )	
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor			119.05

## 11.0 Heat Loss Floors

# Summary for Input Data

Description	Type	Storey Index	Construction	U-Value (W/m²K)	Shelter Code	Shelter Factor	Kappa (kJ/m²K)	Area (m²)	
Ground Floor Floor Over Garage	Ground Floor - Solid Exposed Floor - Timber	Lowest occupied +1	Suspended concrete floor, carpeted Timber exposed floor, insulation between joists	0.12 0.15	None None	0.00 0.00	75.00 20.00	86.70 32.15	
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction					Kappa (kJ/m²K)	Area (m²)	
Internal Floor 1									
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Doors Windows	Manufacturer BFRC, BSI or CERTASS data	Half Glazed Door Window	Double Low-E Soft 0.1 Double Low-E Soft 0.1			0.63 0.45		0.70 1.00	1.30 1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m²)	Pitch				
Front Door	Doors	External Wall 1	North	1.96	0				
W1	Windows	External Wall 1	North	12.66	0				
W2	Windows	External Wall 1	West	0.67	0				
W3	Windows	External Wall 1	South	17.78	0				
Utility Door	Doors	External Wall 1	West	1.95	0				
<b>14.0 Conservatory</b>									
None									
<b>15.0 Draught Proofing</b>									
100 %									
<b>16.0 Draught Lobby</b>									
No									
<b>17.0 Thermal Bridging</b>									
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Independently assessed	23.42	0.05	0.05	No				
E3 Sill	Independently assessed	16.30	0.02	0.02	RCD				
E4 Jamb	Independently assessed	56.40	0.01	0.01	RCD				
E5 Ground floor (normal)	Independently assessed	46.65	0.05	0.05	RCD				
E10 Eaves (insulation at ceiling level)	Independently assessed	42.81	0.05	0.05	RCD				
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.28	0.04	0.04	RCD				
E16 Corner (normal)	Non Gov Approved Schemes	50.00	0.04	0.04	RCD				
E6 Intermediate floor within a dwelling	Independently assessed	36.92	0.00	0.00	RCD				
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	50.00	-0.10	-0.10	RCD				
E20 Exposed floor (normal)	Table K1 - Default	13.06	0.32	0.32	No				
E21 Exposed floor (inverted)	Table K1 - Default	9.77	0.32	0.32	No				
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	No								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Duct Type	Rigid								
Wet Rooms	7								
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	6							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.11	Through Wall Fan	0							
	Kitchen								
0.14	Through Wall Fan	0							
	Other Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									
Number of open chimneys	0								
Number of open flues	0								
Number of chimneys/flues attached to closed fire	0								

# Summary for Input Data

Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Database										
Percentage of Heat	100.00	%									
Database Ref. No.	104431										
Fuel Type	Electricity										
SAP Code	0										
Model Name	aroTHERM plus 7kW + AI										
Manufacturer	Vaillant Group UK Ltd										
Controls SAP Code	2207										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										
Summer Immersion	No										
Cold Water Source	From mains										
Bath Count	1										

# Summary for Input Data



Supplementary Immersion

No

Immersion Only Heating Hot Water

No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00	9.30	No	Instantaneous System 1
Shower 2	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	
Shower 4	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	Hot Water Cylinder
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes
	Annual

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

## Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Ploughwright Life - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The Ploughwright Life - SD	
Property	The Ploughwright Life - SD				
SAP Rating	85 B	DER	3.64	TER	11.05
Environmental	97 A	% DER < TER			67.06
CO <sub>2</sub> Emissions (t/year)	0.31	DFEE	34.48	TFEE	38.13
Compliance Check	See BREL	% DFEE < TFEE			9.56
% DPER < TPER	34.04	DPER	38.05	TPER	57.68

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Semi-Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00 kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	46.85 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	46.85 m <sup>2</sup>	2.61 m

8.0 Living Area	22.57	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	96.69	76.77	0.00	None	19.92	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	48.91	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	146.93
Block Partitions		Dense block, plasterboard on dabs	75.00	17.57

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof		External Plane Roof	0.09	9.00	46.85	46.85	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
Description				

# Summary for Input Data



Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	46.85						
<b>11.0 Heat Loss Floors</b>									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m <sup>2</sup> K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m <sup>2</sup> K) 75.00						
			Area (m <sup>2</sup> ) 39.97						
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 39.97						
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch				
Front Door	Doors	External Wall 1	North	2.15	0				
W1	Windows	External Wall 1	North	8.28	0				
W4	Windows	External Wall 1	East	4.07	0				
Rear Door	Doors	External Wall 1	South	2.15	0				
W3	Windows	External Wall 1	West	3.27	0				
<b>14.0 Conservatory</b>									
15.0 Draught Proofing	100				%				
<b>16.0 Draught Lobby</b>									
<b>17.0 Thermal Bridging</b>				Calculate Bridges					
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Independently assessed	14.73	0.05	0.05	HiTherm				No
E3 Sill	Non Gov Approved Schemes	12.23	0.02	0.02	RCD				No
E4 Jamb	Non Gov Approved Schemes	31.95	0.01	0.01	RCD				No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.35	0.05	0.05	RCD				No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.79	0.05	0.05	RCD				No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.56	0.04	0.04	RCD				No
E16 Corner (normal)	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				No
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				No
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.79	0.04	0.04	RCD				No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.79	0.00	0.07	Table K1				No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.79	0.03	0.03	RCD				No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	19.35	0.00	0.00	RCD				No
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	No								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Duct Type	Rigid								
Wet Rooms	3								
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	2							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.11	Through Wall Fan	0							
	Kitchen								
0.14	Through Wall Fan	0							
	Other Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									
Number of open chimneys	0								
Number of open flues	0								

# Summary for Input Data

Number of chimneys/flues attached to closed fire	0										
Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>											
	No										
<b>22.0 Pressure Testing</b>											
Designed AP <sub>50</sub>	Yes										
	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>											
Percentage of Heat	100.00										
Database Ref. No.	104431										
Fuel Type	Electricity										
SAP Code	0										
Model Name	aroTHERM plus 7kW + AI										
Manufacturer	Vaillant Group UK Ltd										
Controls SAP Code	2207										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
<b>25.0 Main Heating 2</b>											
	None										
<b>26.0 Heat Networks</b>											
	None										
<b>27.0 Secondary Heating</b>											
	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										
Summer Immersion	No										
Cold Water Source	From mains										

# Summary for Input Data



Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Hot Water Cylinder
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Electricity Generated	None
	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR1 - MT			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR1 - MT	
Property	The SHR1 - MT				
SAP Rating	87 B	DER	3.09	TER	9.10
Environmental	97 A	% DER < TER			66.04
CO <sub>2</sub> Emissions (t/year)	0.26	DFEE	25.36	TFEE	28.15
Compliance Check	See BREL	% DFEE < TFEE			9.91
% DPER < TPER	31.19	DPER	32.49	TPER	47.22

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Mid-Terrace
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements	Ground floor: 1st Storey:	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
		1.00 m 1.00 m	46.76 m <sup>2</sup> 46.76 m <sup>2</sup>	2.39 m 2.61 m

8.0 Living Area	13.28	m <sup>2</sup>
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9.0 External Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
	External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	47.71	32.27	0.00	None	15.44	Enter Gross Area

9.1 Party Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
	Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	97.73	0.00	None

9.2 Internal Walls	Description	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
	Stud Partitions	Plasterboard on timber frame	9.00	153.86
	Block Partitions	Dense block, plasterboard on dabs	75.00	22.80

10.0 External Roofs	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area (m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Shelter Calculation Type	Openings
	Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	46.76	46.76	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings	Description	Storey	Construction	Area (m <sup>2</sup> )

# Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	46.76		
<b>11.0 Heat Loss Floors</b>					
Description	Type	Storey Index	Construction		
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted		
			U-Value (W/m <sup>2</sup> K) 0.12		
			Shelter Code None		
			Shelter Factor 0.00		
			Kappa (kJ/m <sup>2</sup> K) 75.00		
			Area (m <sup>2</sup> ) 46.76		
<b>11.2 Internal Floors</b>					
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )		
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 46.76		
<b>12.0 Opening Types</b>					
Description	Data Source	Type	Glazing		
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1		
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1		
			Glazing Gap 0.63 0.45		
			Filling Type 0.70 1.00		
			G-value 0.45		
			Frame Type Frame Factor U Value (W/m <sup>2</sup> K) 1.30 1.30		
<b>13.0 Openings</b>					
Name	Opening Type	Location	Orientation Area (m <sup>2</sup> ) Pitch		
Front Door	Doors	External Wall 1	North 2.15 0		
W1	Windows	External Wall 1	North 5.47 0		
W2	Windows	External Wall 1	South 7.82 0		
<b>14.0 Conservatory</b>					
		None			
<b>15.0 Draught Proofing</b>					
		100	%		
<b>16.0 Draught Lobby</b>					
		No			
<b>17.0 Thermal Bridging</b>					
<b>17.1 List of Bridges</b>					
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	10.66	0.05	0.05	No
E3 Sill	Non Gov Approved Schemes	8.05	0.02	0.02	No
E4 Jamb	Non Gov Approved Schemes	22.95	0.01	0.01	No
E5 Ground floor (normal)	Non Gov Approved Schemes	9.54	0.05	0.05	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.54	0.05	0.05	No
E18 Party wall between dwellings	Non Gov Approved Schemes	19.98	0.05	0.05	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	19.57	0.04	0.04	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	19.56	0.00	0.07	No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	19.56	0.03	0.03	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	9.54	0.00	0.00	No
<b>19.0 Mechanical Ventilation</b>					
<b>Mechanical Ventilation</b>					
Mechanical Ventilation System Present	Yes				
Approved Installation	No				
Mechanical Ventilation data Type	Database				
Type	Mechanical extract ventilation - decentralised				
MV Reference Number	500755				
Duct Type	Rigid				
Wet Rooms	4				
SFP from Installer Commissioning Certificate	No				
<b>19.1 Mechanical extract ventilation - Decentralised</b>					
SFP	Fan/Room Type	Count			
0.15	In Room Fan	1			
	Kitchen				
0.15	In Room Fan Other	3			
	Wet Room				
0.00	In Duct Fan Kitchen	0			
0.00	In Duct Fan Other	0			
	Wet Room				
0.11	Through Wall Fan	0			
	Kitchen				
0.14	Through Wall Fan	0			
	Other Wet Room				
<b>20.0 Fans, Open Fireplaces, Flues</b>					
Number of open chimneys	0				
Number of open flues	0				
Number of chimneys/flues attached to closed fire	0				
Number of flues attached to solid fuel boiler	0				

# Summary for Input Data

Number of flues attached to other heater	0											
Number of blocked chimneys	0											
Number of intermittent extract fans	0											
Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>												
	No											
<b>22.0 Pressure Testing</b>												
Designed AP <sub>50</sub>	4.00											
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00											
Database Ref. No.	104431											
Fuel Type	Electricity											
SAP Code	0											
Model Name	aroTHERM plus 7kW + AI											
Manufacturer	Vaillant Group UK Ltd											
Controls SAP Code	2207											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
<b>25.0 Main Heating 2</b>												
	None											
<b>26.0 Heat Networks</b>												
	None											
<b>27.0 Secondary Heating</b>												
	None											
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 1											
SAP Code	901											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											
Waste Water Heat Recovery Storage System	No											
Solar Panel	No											
Water use <= 125 litres/person/day	Yes											
Summer Immersion	No											
Cold Water Source	From mains											
Bath Count	1											
Supplementary Immersion	No											

# Summary for Input Data



Immersion Only Heating Hot Water

No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Showers	Combi boiler or unvented hot water system	8.00	9.30	No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

## 29.0 Hot Water Cylinder

Cylinder Stat	Hot Water Cylinder
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR1 - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR1 - SD	
Property	The SHR1 - SD				
SAP Rating	86 B	DER	3.33	TER	10.14
Environmental	97 A	% DER < TER			67.16
CO <sub>2</sub> Emissions (t/year)	0.28	DFEE	29.46	TFEE	33.72
Compliance Check	See BREL	% DFEE < TFEE			12.65
% DPER < TPER	34.11	DPER	34.82	TPER	52.84

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, End-Terrace
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	46.76 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	46.76 m <sup>2</sup>	2.61 m

8.0 Living Area	13.28	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	96.57	81.13	0.00	None	15.44	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	48.86	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	153.86
Block Partitions		Dense block, plasterboard on dabs	75.00	22.80

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	46.76	46.76	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
Description				

# Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	46.76						
<b>11.0 Heat Loss Floors</b>									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m <sup>2</sup> K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m <sup>2</sup> K) 75.00						
			Area (m <sup>2</sup> ) 46.76						
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 46.76						
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch				
Front Door	Doors	External Wall 1	North	2.15	0				
W1	Windows	External Wall 1	North	2.89	0				
W2	Windows	External Wall 1	East	2.58	0				
W3	Windows	External Wall 1	West	2.99	0				
W4	Windows	External Wall 1	South	4.83	0				
<b>14.0 Conservatory</b>									
15.0 Draught Proofing	100				%				
16.0 Draught Lobby	No								
<b>17.0 Thermal Bridging</b>				Calculate Bridges					
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Independently assessed	10.66	0.05	0.05	HiTherm				No
E3 Sill	Non Gov Approved Schemes	8.05	0.02	0.02	RCD				No
E4 Jamb	Non Gov Approved Schemes	22.95	0.01	0.01	RCD				No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.34	0.05	0.05	RCD				No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.54	0.05	0.05	RCD				No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.78	0.04	0.04	RCD				No
E16 Corner (normal)	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				No
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				No
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.78	0.04	0.04	RCD				No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.78	0.00	0.07	Table K1				No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.78	0.03	0.03	RCD				No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	19.32	0.00	0.00	RCD				No
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	No								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.11	Through Wall Fan	0							
	Kitchen								
0.14	Through Wall Fan	0							
	Other Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									
Number of open chimneys	0								
Number of open flues	0								

# Summary for Input Data

Number of chimneys/flues attached to closed fire	0										
Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Database										
Percentage of Heat	100.00										
Database Ref. No.	104431										
Fuel Type	Electricity										
SAP Code	0										
Model Name	aroTHERM plus 7kW + AI										
Manufacturer	Vaillant Group UK Ltd										
Controls SAP Code	2207										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>	Main Heating 1										
Water Heating	901										
SAP Code	No										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										
Summer Immersion	No										
Cold Water Source	From mains										

# Summary for Input Data



Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Showers	Combi boiler or unvented hot water system	8.00	9.30	No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Hot Water Cylinder
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes
	Annual

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR2 - DET			Issued on Date	14/10/2025
Assessment Reference	001			Prop Type Ref	The SHR2 - DET
Property	The SHR2 - DET				
SAP Rating	84 B	DER	3.81	TER	11.68
Environmental	97 A	% DER < TER			67.38
CO <sub>2</sub> Emissions (t/year)	0.33	DFEE	38.18	TFEE	41.98
Compliance Check	See BREL	% DFEE < TFEE			9.05
% DPER < TPER	34.95	DPER	39.69	TPER	61.01

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, Detached	
Which Floor	0	
2.0 Number of Storeys	2	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	48.03 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	48.03 m <sup>2</sup>	2.61 m

8.0 Living Area	15.39	m <sup>2</sup>
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9.0 External Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	156.29	126.00	0.00	None	30.29	Enter Gross Area

9.2 Internal Walls	Description	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	172.75
Block Partitions		Dense block, plasterboard on dabs	75.00	23.09

10.0 External Roofs	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof		Plasterboard, insulated at ceiling level	0.09	9.00	48.03	48.03	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings	Description	Storey	Construction	Area (m <sup>2</sup> )
Internal Ceiling 1		Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	48.03

11.0 Heat Loss Floors	Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Ground Floor	Ground Floor - Solid		Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	48.03

# Summary for Input Data

## 11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	48.03

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	External Wall 1	North	2.02	0
W1	Windows	External Wall 1	North	9.24	0
W2	Windows	External Wall 1	East	4.10	0
W3	Windows	External Wall 1	South	12.90	0
Rear Door	Doors	External Wall 1	South	2.03	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	20.47	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	13.79	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	48.90	0.01	0.01	RCD
E5 Ground floor (normal)	Non Gov Approved Schemes	31.29	0.05	0.05	RCD
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	15.52	0.05	0.05	RCD
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	15.78	0.04	0.04	RCD
E16 Corner (normal)	Non Gov Approved Schemes	29.97	0.04	0.04	RCD
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	31.29	0.00	0.00	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	9.99	-0.10	-0.10	RCD

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

No

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500755

Duct Type

Rigid

Wet Rooms

5

SFP from Installer Commissioning Certificate

No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	4
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys

0

Number of open flues

0

Number of chimneys/flues attached to closed fire

0

Number of flues attached to solid fuel boiler

0

Number of flues attached to other heater

0

Number of blocked chimneys

0

Number of intermittent extract fans

0

# Summary for Input Data

Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>	No											
<b>22.0 Pressure Testing</b>	Yes											
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa										
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00	%										
Database Ref. No.	104431											
Fuel Type	Electricity											
SAP Code	0											
Model Name	aroTHERM plus 7kW + AI											
Manufacturer	Vaillant Group UK Ltd											
Controls SAP Code	2207											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Underfloor Heating	Yes - Pipes in thin screed											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
<b>25.0 Main Heating 2</b>	None											
<b>26.0 Heat Networks</b>	None											
<b>27.0 Secondary Heating</b>	None											
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 1											
SAP Code	901											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											
Waste Water Heat Recovery Storage System	No											
Solar Panel	No											
Water use <= 125 litres/person/day	Yes											
Summer Immersion	No											
Cold Water Source	From mains											
Bath Count	1											
Supplementary Immersion	No											
Immersion Only Heating Hot Water	No											
<b>28.1 Showers</b>												

# Summary for Input Data



Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1
Shower 2	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	Hot Water Cylinder
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

### 31.0 Thermal Store

None

### 34.0 Small-scale Hydro

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

### Recommendations

#### Lower cost measures

None

#### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR3 - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR3 - SD	
Property	The SHR3 - SD				
SAP Rating	84 B	DER	3.84	TER	10.14
Environmental	97 A	% DER < TER		62.13	
CO <sub>2</sub> Emissions (t/year)	0.33	DFEE	33.98	TFEE	35.32
Compliance Check	See BREL	% DFEE < TFEE		3.80	
% DPER < TPER	23.84	DPER	40.20	TPER	52.79
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001
Client					

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, Semi-Detached	
2.0 Number of Storeys	2	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	No	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:	1.00 m	50.99 m <sup>2</sup>	2.39 m	
1st Storey:	1.00 m	45.58 m <sup>2</sup>	2.61 m	

8.0 Living Area	12.60	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
Masonry Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.25	60.00	100.99	79.49	0.00	None	21.50	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	44.80	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Block Partition		Dense block, plasterboard on dabs	75.00	21.96
Stud Partition		Plasterboard on timber frame	9.00	184.73

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof		External Plane Roof	0.09	9.00	45.58	45.58	None	0.00	Enter Gross Area	0.00
Low Level Roof		External Slope Roof	0.15	9.00	5.41	5.41	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
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# Summary for Input Data

Internal Ceiling	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	45.58						
<b>11.0 Heat Loss Floors</b>									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m <sup>2</sup> K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m <sup>2</sup> K) 75.00						
			Area (m <sup>2</sup> ) 50.99						
<b>11.2 Internal Floors</b>									
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )						
Internal Floor		Plasterboard ceiling, carpeted chipboard floor	9.00 45.58						
<b>12.0 Opening Types</b>									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
1	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
2	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
3	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30
Front Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
<b>13.0 Openings</b>									
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch				
1	1	Masonry Wall	North	6.41					
2	2	Masonry Wall	East	3.67					
3	3	Masonry Wall	South	9.29					
Front Door	Front Door	Masonry Wall	North	2.13					
<b>14.0 Conservatory</b>				None					
<b>15.0 Draught Proofing</b>				0	%				
<b>16.0 Draught Lobby</b>				No					
<b>17.0 Thermal Bridging</b>				Calculate Bridges					
<b>17.1 List of Bridges</b>									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E1 Steel lintel with perforated steel base plate	Independently assessed	14.79	0.05	0.05	No				
E3 Sill	Independently assessed	10.44	0.02	0.02	RCD				
E4 Jamb	Independently assessed	33.60	0.01	0.01	RCD				
E5 Ground floor (normal)	Independently assessed	21.15	0.05	0.05	RCD				
E6 Intermediate floor within a dwelling	Independently assessed	19.37	0.00	0.00	RCD				
E10 Eaves (insulation at ceiling level)	Independently assessed	14.30	0.05	0.05	RCD				
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.91	0.04	0.04	RCD				
E16 Corner (normal)	Non Gov Approved Schemes	12.38	0.04	0.04	RCD				
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.39	-0.10	-0.10	RCD				
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD				
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.90	0.04	0.04	RCD				
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	8.12	0.00						
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.91	0.03	0.03	RCD				
<b>19.0 Mechanical Ventilation</b>									
<b>Mechanical Ventilation</b>									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500755								
Configuration	500755								
Manufacturer SFP	0.00								
Duct Type	Rigid								
Wet Rooms	4								
Brand, Model									
SFP from Installer Commissioning Certificate	No								
<b>19.1 Mechanical extract ventilation - Decentralised</b>									
SFP	Fan/Room Type	Count							
0.15	In Room Fan	1							
	Kitchen								
0.15	In Room Fan Other	3							
	Wet Room								
<b>20.0 Fans, Open Fireplaces, Flues</b>									

# Summary for Input Data

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0
Number of intermittent extract fans	0
Number of passive vents	0
Number of flueless gas fires	0
<b>21.0 Fixed Cooling System</b>	
21.0 Fixed Cooling System	No
<b>22.0 Pressure Testing</b>	
Designed AP <sub>50</sub>	4.00
Property Tested?	Yes
Test Method	Blower Door
<b>22.0 Lighting</b>	
No Fixed Lighting	Yes
<b>24.0 Main Heating 1</b>	
Percentage of Heat	100.00
Database Ref. No.	104431
Fuel Type	Electricity
SAP Code	0
Model Name	aroTHERM plus 7kW + AI
Manufacturer	Vaillant Group UK Ltd
Controls SAP Code	2207
Delayed Start Stat	Yes
Burner Control	Modulating
HETAS approved System	No
Is MHS Pumped	Pump in heated space
Heating Pump Age	2013 or later
Heat Emitter	Radiators
Flow Temperature	Enter value
Flow Temperature Value	55.00
<b>25.0 Main Heating 2</b>	
25.0 Main Heating 2	None
<b>26.0 Heat Networks</b>	
26.0 Heat Networks	None
<b>27.0 Secondary Heating</b>	
27.0 Secondary Heating	None
<b>28.0 Water Heating</b>	
Water Heating	Main Heating 1
SAP Code	901
Flue Gas Heat Recovery System	No
Waste Water Heat Recovery Instantaneous System 1	No
Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains

# Summary for Input Data



Bath Count

1

Supplementary Immersion

No

Immersion Only Heating Hot Water

No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Hot Water Cylinder
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	0
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Connected to dwelling's electricity meter

None

Electricity Generation

Yes

Annual

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

### Recommendations

#### Lower cost measures

None

#### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR4 - DET			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR4 - DET	
Property	The SHR4 - DET				
SAP Rating	83 B	DER	3.83	TER	10.09
Environmental	96 A	% DER < TER		62.04	
CO <sub>2</sub> Emissions (t/year)	0.4	DFEE	38.37	TFEE	38.77
Compliance Check	See BREL	% DFEE < TFEE		1.04	
% DPER < TPER	24.24	DPER	39.88	TPER	52.64
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001
Client					

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, Detached	
2.0 Number of Storeys	2	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	No	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	59.13 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	59.13 m <sup>2</sup>	2.61 m

8.0 Living Area	22.11	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
Masonry Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.25	60.00	162.22	134.61	0.00	None	27.61	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Block Partition		Dense block, plasterboard on dabs	75.00	69.99
Stud Partition		Plasterboard on timber frame	9.00	150.22

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Shelter	Openings	Calculation Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	59.13	59.13	None	0.00	Enter Gross Area	0.00	Area

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )		
Internal Ceiling		Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	59.13		

11.0 Heat Loss Floors		Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	59.13

## 11.2 Internal Floors

# Summary for Input Data

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Internal Floor		Plasterboard ceiling, carpeted chipboard floor	9.00	59.13
<b>12.0 Opening Types</b>				
Description	Data Source	Type	Glazing	Glazing Gap
1	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1	0.45
2	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1	0.45
Front Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1	0.63
0.70				1.30
1.00				1.30
<b>13.0 Openings</b>				
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )
1	1	Masonry Wall	North	10.69
2	2	Masonry Wall	South	14.94
Front Door	Front Door	Masonry Wall	North	1.98
<b>14.0 Conservatory</b>				
None				
<b>15.0 Draught Proofing</b>				
0 %				
<b>16.0 Draught Lobby</b>				
No				
<b>17.0 Thermal Bridging</b>				
<b>17.1 List of Bridges</b>				
Bridge Type	Source Type	Length	Psi	Adjusted Reference:
E1 Steel lintel with perforated steel base plate	Independently assessed	17.59	0.05	0.05
E3 Sill	Independently assessed	10.74	0.02	0.02
E4 Jamb	Independently assessed	40.20	0.01	0.01
E5 Ground floor (normal)	Independently assessed	32.46	0.05	0.05
E6 Intermediate floor within a dwelling	Independently assessed	32.43	0.00	0.00
E10 Eaves (insulation at ceiling level)	Independently assessed	17.08	0.05	0.05
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	15.36	0.04	0.04
E16 Corner (normal)	Non Gov Approved Schemes	25.00	0.04	0.04
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.10	-0.10
<b>19.0 Mechanical Ventilation</b>				
<b>Mechanical Ventilation</b>				
Mechanical Ventilation System Present	Yes			
Approved Installation	Yes			
Mechanical Ventilation data Type	Database			
Type	Mechanical extract ventilation - decentralised			
MV Reference Number	500755			
Configuration	500755			
Manufacturer SFP	0.00			
Duct Type	Rigid			
Wet Rooms	4			
Brand, Model				
SFP from Installer Commissioning Certificate	No			
<b>19.1 Mechanical extract ventilation - Decentralised</b>				
SFP	Fan/Room Type	Count		
0.15	In Room Fan	1		
	Kitchen			
0.15	In Room Fan Other	3		
	Wet Room			
<b>20.0 Fans, Open Fireplaces, Flues</b>				
Number of open chimneys	0			
Number of open flues	0			
Number of chimneys/flues attached to closed fire	0			
Number of flues attached to solid fuel boiler	0			
Number of flues attached to other heater	0			
Number of blocked chimneys	0			
Number of intermittent extract fans	0			
Number of passive vents	0			

# Summary for Input Data

Number of flueless gas fires	0				
<b>21.0 Fixed Cooling System</b>	No				
<b>22.0 Pressure Testing</b>	Yes				
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa			
Property Tested?	Yes				
Test Method	Blower Door				
<b>22.0 Lighting</b>	Yes				
No Fixed Lighting	Yes				
<b>24.0 Main Heating 1</b>	Database				
Percentage of Heat	100.00	%			
Database Ref. No.	104431				
Fuel Type	Electricity				
SAP Code	0				
Model Name	aroTHERM plus 7kW + AI				
Manufacturer	Vaillant Group UK Ltd				
Controls SAP Code	2207				
Delayed Start Stat	Yes				
Burner Control	Modulating				
HETAS approved System	No				
Is MHS Pumped	Pump in heated space				
Heating Pump Age	2013 or later				
Heat Emitter	Radiators				
Flow Temperature	Enter value				
Flow Temperature Value	55.00				
<b>25.0 Main Heating 2</b>	None				
<b>26.0 Heat Networks</b>	None				
<b>27.0 Secondary Heating</b>	None				
<b>28.0 Water Heating</b>					
Water Heating	Main Heating 1				
SAP Code	901				
Flue Gas Heat Recovery System	No				
Waste Water Heat Recovery Instantaneous System 1	No				
Waste Water Heat Recovery Instantaneous System 2	No				
Waste Water Heat Recovery Storage System	No				
Solar Panel	No				
Water use <= 125 litres/person/day	Yes				
Summer Immersion	No				
Cold Water Source	From mains				
Bath Count	1				
Supplementary Immersion	No				
Immersion Only Heating Hot Water	No				
<b>28.1 Showers</b>					
<b>Description</b>	<b>Shower Type</b>	<b>Flow Rate [l/min]</b>	<b>Rated Power [kW]</b>	<b>Connected</b>	<b>Connected To</b>
Shower	Combi boiler or unvented hot water system	8.00		No	
<b>28.3 Waste Water Heat Recovery System</b>					

# Summary for Input Data



## 29.0 Hot Water Cylinder

Cylinder Stat	Hot Water Cylinder
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	0
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	Yes

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Connected to dwelling's electricity meter	None
Electricity Generation	Yes

Annual

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

### Recommendations

#### Lower cost measures

None

#### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR5 - DET			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR5 - DET	
Property	The SHR5 - DET				
SAP Rating	84 B	DER	3.40	TER	10.33
Environmental	97 A	% DER < TER			67.09
CO <sub>2</sub> Emissions (t/year)	0.38	DFEE	40.70	TFEE	41.86
Compliance Check	See BREL	% DFEE < TFEE			2.75
% DPER < TPER	34.59	DPER	35.32	TPER	54.00

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North	
Property Tenure	ND	
Transaction Type	6	
Terrain Type	Suburban	
1.0 Property Type	House, Detached	
2.0 Number of Storeys	2	
3.0 Date Built	2025	
3.0 Property Age Band	L	
4.0 Sheltered Sides	2	
5.0 Sunlight/Shade	Average or unknown	
6.0 Thermal Mass Parameter	Precise calculation	
Thermal Mass	0.00	kJ/m <sup>2</sup> K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	No	
Smart gas meter fitted	No	

7.0 Measurements	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
	Ground floor: 1st Storey:	1.00 m 1.00 m	2.38 m 2.61 m

8.0 Living Area	22.24	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
Masonry Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	79.36	59.32	0.00	None	20.04	Enter Gross Area
Tile Hanging Wall		Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	82.83	72.40	0.00	None	10.43	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	174.61
Block Partitions		Dense block, plasterboard on dabs	75.00	62.27

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof		External Plane Roof	0.09	9.00	60.97	60.97	None	0.00	Enter Gross Area	0.00
Bay Roof		External Flat Roof	0.11	9.00	2.09	2.09	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )		
Internal Ceiling		Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	60.97		

11.0 Heat Loss Floors		Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Description	Type							

# Summary for Input Data



Suspended Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	63.01
<b>11.2 Internal Floors</b>								
<b>Description</b>	<b>Storey Index</b>	<b>Construction</b>			<b>Kappa (kJ/m<sup>2</sup>K)</b>	<b>Area (m<sup>2</sup>)</b>		
Internal Floor		Plasterboard ceiling, carpeted chipboard floor			9.00	60.97		
<b>12.0 Opening Types</b>								
<b>Description</b>	<b>Data Source</b>	<b>Type</b>	<b>Glazing</b>	<b>Glazing Gap</b>	<b>Filling Type</b>	<b>G-value</b>	<b>Frame Type</b>	<b>Frame Factor</b>
1	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
2	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
3	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
4	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
5	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
6	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
7	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
8	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
Front Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70
<b>13.0 Openings</b>								
<b>Name</b>	<b>Opening Type</b>	<b>Location</b>	<b>Orientation</b>	<b>Area (m<sup>2</sup>)</b>	<b>Pitch</b>			
1	1	Masonry Wall	North	6.44				
2	2	Masonry Wall	East	3.00				
3	3	Masonry Wall	West	5.73				
4	4	Masonry Wall	South	3.09				
5	5	Tile Hanging Wall	North	4.43				
6	6	Tile Hanging Wall	East	3.00				
7	7	Tile Hanging Wall	West	1.50				
8	8	Tile Hanging Wall	South	1.50				
Front Door	Front Door	Masonry Wall	North	1.78				
<b>14.0 Conservatory</b>								
		None						
<b>15.0 Draught Proofing</b>								
		0				%		
<b>16.0 Draught Lobby</b>								
		No						
<b>17.0 Thermal Bridging</b>								
<b>17.1 List of Bridges</b>								
<b>Bridge Type</b>	<b>Source Type</b>	<b>Length</b>	<b>Psi</b>	<b>Adjusted Reference:</b>	<b>Imported</b>			
E2 Other lintels (including other steel lintels)	Independently assessed	21.74	0.05	0.05				No
E3 Sill	Independently assessed	17.21	0.02	0.02	RCD			No
E4 Jamb	Independently assessed	60.00	0.01	0.01	RCD			No
E5 Ground floor (normal)	Independently assessed	33.27	0.05	0.05	RCD			No
E6 Intermediate floor within a dwelling	Independently assessed	27.50	0.00	0.00	RCD			No
E10 Eaves (insulation at ceiling level)	Independently assessed	18.29	0.05	0.05	RCD			No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	17.68	0.04	0.04	RCD			No
E16 Corner (normal)	Non Gov Approved Schemes	24.75	0.04	0.04	RCD			No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	4.77	-0.10	-0.10	RCD			No
<b>19.0 Mechanical Ventilation</b>								
<b>Mechanical Ventilation</b>								
Mechanical Ventilation System Present	Yes							
Approved Installation	Yes							
Mechanical Ventilation data Type	Database							
Type	Mechanical extract ventilation - decentralised							
MV Reference Number	500755							
Configuration	500755							
Manufacturer SFP	0.00							
Duct Type	Rigid							
Wet Rooms	5							
Brand, Model								
SFP from Installer Commissioning Certificate	No							
<b>19.1 Mechanical extract ventilation - Decentralised</b>								
<b>SFP</b>	<b>Fan/Room Type</b>	<b>Count</b>						

# Summary for Input Data

0.15	In Room Fan	1
0.15	Kitchen	
	In Room Fan Other	4
	Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0
Number of intermittent extract fans	0
Number of passive vents	0
Number of flueless gas fires	0

## 21.0 Fixed Cooling System

22.0 Pressure Testing	Yes
Designed AP <sub>50</sub>	4.00
Property Tested?	Yes
Test Method	Blower Door

## 22.0 Lighting

No Fixed Lighting	No	Name	Efficacy	Power	Capacity	Count
		Lighting 1	75.00	10.00	750.00	25

## 24.0 Main Heating 1

Percentage of Heat	100.00	%
Database Ref. No.	104432	
Fuel Type	Electricity	
SAP Code	0	
Model Name	aroTHERM plus 7kW + AI	
Manufacturer	Vaillant Group UK Ltd	
Controls SAP Code	2207	
Delayed Start Stat	Yes	
Burner Control	Modulating	
HETAS approved System	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Underfloor Heating	Yes - Pipes in thin screed	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	

## 25.0 Main Heating 2

26.0 Heat Networks	None
27.0 Secondary Heating	None

## 28.0 Water Heating

Water Heating	Main Heating 1
SAP Code	901
Flue Gas Heat Recovery System	No
Waste Water Heat Recovery Instantaneous System 1	No

# Summary for Input Data

Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
1	Combi boiler or unvented hot water system	8.00	8.00	No	
2	Combi boiler or unvented hot water system			No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	Hot Water Cylinder
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	0
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	Yes

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Connected to dwelling's electricity meter	None
Electricity Generation	Yes

Annual

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The SHR6 - DET			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The SHR6 - DET	
Property	The SHR6 - DET				
SAP Rating	85 B	DER	3.09	TER	8.89
Environmental	97 A	% DER < TER			65.24
CO <sub>2</sub> Emissions (t/year)	0.43	DFEE	34.44	TFEE	38.51
Compliance Check	See BREL	% DFEE < TFEE			10.55
% DPER < TPER	30.90	DPER	32.13	TPER	46.49

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00
	kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements	Heat Loss Perimeter	Internal Floor Area	Average Storey Height
	Ground floor: 1.00 m 1st Storey: 1.00 m	77.21 m <sup>2</sup> 77.21 m <sup>2</sup>	2.39 m 2.61 m

8.0 Living Area	21.67	m <sup>2</sup>
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9.0 External Walls	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
	External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	189.95	156.12	0.00	None	33.83	Enter Gross Area

9.2 Internal Walls	Description	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
	Stud Partitions	Plasterboard on timber frame	9.00	210.38
	Block Partitions	Dense block, plasterboard on dabs	75.00	89.29

10.0 External Roofs	Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calulation	Openings Type
	Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	77.21	77.21	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings	Description	Storey	Construction	Area (m <sup>2</sup> )
	Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	77.21

11.0 Heat Loss Floors	Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
	Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	77.21

# Summary for Input Data

## 11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	77.21

## 12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00	1.30

## 13.0 Openings

Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch
Front Door	Doors	External Wall 1	North	2.13	0
W1	Windows	External Wall 1	North	11.49	0
W2	Windows	External Wall 1	East	1.68	0
W3	Windows	External Wall 1	West	2.87	0
W4	Windows	External Wall 1	South	15.66	0

## 14.0 Conservatory

None

## 15.0 Draught Proofing

100

%

## 16.0 Draught Lobby

No

## 17.0 Thermal Bridging

Calculate Bridges

### 17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Independently assessed	22.42	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	14.96	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	51.30	0.01	0.01	RCD
E5 Ground floor (normal)	Non Gov Approved Schemes	38.03	0.05	0.05	RCD
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	19.93	0.05	0.05	RCD
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	18.10	0.04	0.04	RCD
E16 Corner (normal)	Non Gov Approved Schemes	24.98	0.04	0.04	RCD
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	38.03	0.00	0.00	RCD
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.10	-0.10	RCD

## 19.0 Mechanical Ventilation

### Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

No

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500755

Duct Type

Rigid

Wet Rooms

6

SFP from Installer Commissioning Certificate

No

## 19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.15	In Room Fan	1
	Kitchen	
0.15	In Room Fan Other	5
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.11	Through Wall Fan	0
	Kitchen	
0.14	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys

0

Number of open flues

0

Number of chimneys/flues attached to closed fire

0

Number of flues attached to solid fuel boiler

0

Number of flues attached to other heater

0

Number of blocked chimneys

0

Number of intermittent extract fans

0

# Summary for Input Data

Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>	No										
No Fixed Lighting	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Database										
Percentage of Heat	100.00	%									
Database Ref. No.	104431										
Fuel Type	Electricity										
SAP Code	0										
Model Name	aroTHERM plus 7kW + AI										
Manufacturer	Vaillant Group UK Ltd										
Controls SAP Code	2207										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>	Main Heating 1										
Water Heating	901										
SAP Code	No										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										
Summer Immersion	No										
Cold Water Source	From mains										
Bath Count	1										
Supplementary Immersion	No										
Immersion Only Heating Hot Water	No										
<b>28.1 Showers</b>											
<b>Description</b>	<b>Shower Type</b>	<b>Flow Rate [l/min]</b>	<b>Rated Power [kW]</b>	<b>Connected</b>	<b>Connected To</b>						
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1						

# Summary for Input Data

Shower 2	Combi boiler or unvented hot water system	8.00	No								
Shower 3	Combi boiler or unvented hot water system	8.00	No								
<b>28.3 Waste Water Heat Recovery System</b>											
<b>29.0 Hot Water Cylinder</b>											
Cylinder Stat	Hot Water Cylinder										
Cylinder In Heated Space	Yes										
Independent Time Control	Yes										
Insulation Type	Measured Loss										
Cylinder Volume	250.00	L									
Loss	1.40	kWh/day									
Pipes insulation	Fully insulated primary pipework										
In Airing Cupboard	No										
<b>31.0 Thermal Store</b>											
<b>34.0 Small-scale Hydro</b>											
Electricity Generated	None										
Apportioned	0.00	kWh/Year									
Connected to dwelling's electricity meter	0.00	kWh/Year									
Electricity Generation	Yes	kWh/Year									
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

**Recommendations**
**Lower cost measures**

None

**Further measures to achieve even higher standards**

None

# Summary for Input Data



Property Reference	The SHR7 - DET			Issued on Date	14/10/2025					
Assessment Reference	001	Prop Type Ref	The SHR7 - DET							
Property	The SHR7 - DET									
SAP Rating	84 B	DER	3.22	TER	9.30					
Environmental	97 A	% DER < TER			65.38					
CO <sub>2</sub> Emissions (t/year)	0.54	DFEE	39.16	TFEE	39.82					
Compliance Check	See BREL	% DFEE < TFEE			1.64					
% DPER < TPER	31.57	DPER	33.31	TPER	48.68					
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001					
Client										
<b>SUMMARY FOR INPUT DATA FOR: New Build (As Designed)</b>										
Orientation	North									
Property Tenure	ND									
Transaction Type	6									
Terrain Type	Suburban									
1.0 Property Type	House, Detached									
Which Floor	0									
2.0 Number of Storeys	3									
3.0 Date Built	2025									
3.0 Property Age Band	L									
4.0 Sheltered Sides	2									
5.0 Sunlight/Shade	Average or unknown									
6.0 Thermal Mass Parameter	Precise calculation									
Thermal Mass	145.01 kJ/m <sup>2</sup> K									
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
	Ground floor:	Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	1st Storey:	36.46 m	71.97 m <sup>2</sup>	2.39 m						
	2nd Storey:	34.39 m	68.93 m <sup>2</sup>	2.61 m						
		34.46 m	46.96 m <sup>2</sup>	2.40 m						
8.0 Living Area	18.43 m <sup>2</sup>									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	203.44	170.01	0.00	None	33.43	Enter Gross Area
Dormer Cheek	Timber Frame	Timber framed wall (one layer of plasterboard)	0.24	9.00	7.14	7.14	0.00	None	0.00	Enter Gross Area
Timber Stud Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.24	9.00	42.11	42.11	0.50	Room In Roof	0.00	Enter Gross Area
9.2 Internal Walls						Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )			
Stud Partitions	Plasterboard on timber frame					9.00	282.74			
Block Partitions	Dense block, plasterboard on dabs					75.00	61.48			
10.0 External Roofs						Shelter Factor	Shelter Calculation Type	Openings		
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Code			
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	60.63	60.63	None	0.00	Enter Gross Area	0.00
Exposed Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	22.07	22.07	None	0.00	Enter Gross Area	0.00
Low Level Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	2.84	2.84	None	0.00	Enter Gross Area	0.00
Sloping Ceiling	External Slope Roof	Plasterboard, insulated slope	0.15	9.00	12.75	12.75	None	0.00	Enter Gross Area	0.00

# Summary for Input Data

Dormer Roof	External Flat Roof	Plasterboard, insulated flat roof	0.11	9.00	3.57	3.57	None	0.00	Enter Gross Area	0.00
<b>10.2 Internal Ceilings</b>										
Description	Storey	Construction								Area (m <sup>2</sup> )
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor								115.89
<b>11.0 Heat Loss Floors</b>										
Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )		
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	71.97		
<b>11.2 Internal Floors</b>										
Description	Storey Index	Construction								Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor								18.00 115.89
<b>12.0 Opening Types</b>										
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m <sup>2</sup> K)	
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63			0.70	1.30
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45			1.00	1.30
<b>13.0 Openings</b>										
Name	Opening Type	Location	Orientation	Area (m <sup>2</sup> )	Pitch					
Front Door	Doors	External Wall 1	North	2.04	0					
W1	Windows	External Wall 1	North	9.59	0					
W2	Windows	External Wall 1	East	2.16	0					
W3	Windows	External Wall 1	West	2.16	0					
W4	Windows	External Wall 1	South	15.45	0					
Utility Door	Doors	External Wall 1	West	2.04	0					
<b>14.0 Conservatory</b>										
		None								
<b>15.0 Draught Proofing</b>										
		100								%
<b>16.0 Draught Lobby</b>										
		No								
<b>17.0 Thermal Bridging</b>										
<b>17.1 List of Bridges</b>										
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported					
E2 Other lintels (including other steel lintels)	Independently assessed	22.91	0.05	0.05	HiTherm					No
E3 Sill	Non Gov Approved Schemes	20.98	0.02	0.02	RCD					No
E4 Jamb	Non Gov Approved Schemes	55.88	0.01	0.01	RCD					No
E5 Ground floor (normal)	Non Gov Approved Schemes	36.46	0.05	0.05	RCD					No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	18.11	0.05	0.05	RCD					No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	17.58	0.04	0.04	RCD					No
E16 Corner (normal)	Non Gov Approved Schemes	58.58	0.04	0.04	RCD					No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	68.85	0.00	0.00	RCD					No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	26.58	-0.10	-0.10	RCD					No
E13 Gable (insulation at rafter level)	Non Gov Approved Schemes	5.01	0.04	0.04	RCD					No
E24 Eaves (insulation at ceiling level - inverted)	Table K1 - Default	2.84	0.15	0.15						No
R6 Flat ceiling	Independently assessed	15.46	0.06	0.06						No
R7 Flat ceiling (inverted)	Independently assessed	2.41	0.06	0.06						No
R8 Roof to wall (rafter)	Independently assessed	23.40	0.06	0.06						No
R9 Roof to wall (flat ceiling)	Independently assessed	8.35	0.06	0.06						No
Y-value	0.02									W/m <sup>2</sup> K
<b>19.0 Mechanical Ventilation</b>										
<b>Mechanical Ventilation</b>										
Mechanical Ventilation System Present	Yes									
Approved Installation	No									
Mechanical Ventilation data Type	Database									
Type	Mechanical extract ventilation - decentralised									
MV Reference Number	500755									
Duct Type	Rigid									
Wet Rooms	7									
SFP from Installer Commissioning Certificate	No									
<b>19.1 Mechanical extract ventilation - Decentralised</b>										
SFP	Fan/Room Type	Count								
0.15	In Room Fan	1								
	Kitchen									
0.15	In Room Fan Other	6								
	Wet Room									
0.00	In Duct Fan Kitchen	0								

# Summary for Input Data

0.00	In Duct Fan Other	0
0.11	Wet Room	
0.14	Through Wall Fan	0
	Kitchen	
	Through Wall Fan	0
	Other Wet Room	

## 20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	0
Number of open flues	0
Number of chimneys/flues attached to closed fire	0
Number of flues attached to solid fuel boiler	0
Number of flues attached to other heater	0
Number of blocked chimneys	0
Number of intermittent extract fans	0
Number of passive vents	0
Number of flueless gas fires	0

## 21.0 Fixed Cooling System

No

## 22.0 Pressure Testing

Designed AP <sub>50</sub>	Yes	
	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa
Property Tested?	Yes	

### Test Method

Blower Door

## 22.0 Lighting

### No Fixed Lighting

Name	Efficacy	Power	Capacity	Count
Lighting 1	75.00	10.00	750.00	10

## 24.0 Main Heating 1

Percentage of Heat	100.00	%
Database Ref. No.	104431	
Fuel Type	Electricity	
SAP Code	0	
In Winter	262.35	
In Summer	279.58	
Model Name	aroTHERM plus 7kW + AI	
Manufacturer	Vaillant Group UK Ltd	
System Type	Heat Pump	
Controls SAP Code	2207	
Delayed Start Stat	Yes	
Burner Control	Modulating	
HETAS approved System	No	
Is MHS Pumped	Pump in heated space	
Heating Pump Age	2013 or later	
Heat Emitter	Radiators	
Flow Temperature	Enter value	
Flow Temperature Value	55.00	

## 25.0 Main Heating 2

None

## 26.0 Heat Networks

None

## 27.0 Secondary Heating

None

## 28.0 Water Heating

Water Heating	Main Heating 1
---------------	----------------

# Summary for Input Data

SAP Code	901
Flue Gas Heat Recovery System	No
Waste Water Heat Recovery Instantaneous System 1	No
Waste Water Heat Recovery Instantaneous System 2	No
Waste Water Heat Recovery Storage System	No
Solar Panel	No
Water use <= 125 litres/person/day	Yes
Summer Immersion	No
Cold Water Source	From mains
Bath Count	1
Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1
Shower 2	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	
Shower 4	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	Hot Water Cylinder
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

None
------

## 34.0 Small-scale Hydro

Electricity Generated	None
	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Tillman Life - SD			Issued on Date	14/10/2025
Assessment Reference	001		Prop Type Ref	The Tillman Life - SD	
Property	The Tillman Life - SD				
SAP Rating	85 B	DER	3.46	TER	10.47
Environmental	97 A	% DER < TER			66.95
CO <sub>2</sub> Emissions (t/year)	0.3	DFEE	30.59	TFEE	34.57
Compliance Check	See BREL	% DFEE < TFEE			11.52
% DPER < TPER	33.65	DPER	36.29	TPER	54.70

Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001
Client			

## SUMMARY FOR INPUT DATA FOR: New Build (As Designed)

Orientation	North
Property Tenure	ND
Transaction Type	6
Terrain Type	Suburban
1.0 Property Type	House, Semi-Detached
Which Floor	0
2.0 Number of Storeys	2
3.0 Date Built	2025
3.0 Property Age Band	L
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown
6.0 Thermal Mass Parameter	Precise calculation
Thermal Mass	0.00 kJ/m <sup>2</sup> K

7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	Yes

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		1.00 m	46.73 m <sup>2</sup>	2.39 m
1st Storey:		1.00 m	46.73 m <sup>2</sup>	2.61 m

8.0 Living Area	22.55	m <sup>2</sup>
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9.0 External Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1		Cavity Wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.18	60.00	96.67	82.81	0.00	None	13.86	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Plasterboard on dabs mounted on cement render on both sides, AAC blocks, cavity	0.00	45.00	48.90	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )
Stud Partitions		Plasterboard on timber frame	9.00	144.80
Block Partitions		Dense block, plasterboard on dabs	75.00	17.41

10.0 External Roofs		Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	46.73	46.73	None	0.00	Enter Gross Area	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m <sup>2</sup> )
Description				

# Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	46.73			
<b>11.0 Heat Loss Floors</b>						
Description	Type	Storey Index	Construction			
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted			
			U-Value (W/m <sup>2</sup> K) 0.12			
			Shelter Code None			
			Shelter Factor 0.00			
			Kappa (kJ/m <sup>2</sup> K) 75.00			
			Area (m <sup>2</sup> ) 46.73			
<b>11.2 Internal Floors</b>						
Description	Storey Index	Construction	Kappa (kJ/m <sup>2</sup> K) Area (m <sup>2</sup> )			
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 46.73			
<b>12.0 Opening Types</b>						
Description	Data Source	Type	Glazing			
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			
			Glazing Gap 0.63 0.45			
			Filling Type 0.70 1.00			
			G-value 0.45			
			Frame Type Frame Factor U Value (W/m <sup>2</sup> K) 1.30 1.30			
<b>13.0 Openings</b>						
Name	Opening Type	Location	Orientation Area (m <sup>2</sup> ) Pitch			
Front Door	Doors	External Wall 1	North 2.15 0			
W1	Windows	External Wall 1	North 4.79 0			
W4	Windows	External Wall 1	South 4.77 0			
Rear Door	Doors	External Wall 1	South 2.15 0			
<b>14.0 Conservatory</b>						
		None				
<b>15.0 Draught Proofing</b>						
		100	%			
<b>16.0 Draught Lobby</b>						
		No				
<b>17.0 Thermal Bridging</b>						
<b>17.1 List of Bridges</b>						
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported	
E2 Other lintels (including other steel lintels)	Independently assessed	10.09	0.05	0.05	HiTherm	No
E3 Sill	Non Gov Approved Schemes	8.05	0.02	0.02	RCD	No
E4 Jamb	Non Gov Approved Schemes	22.65	0.01	0.01	RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.34	0.05	0.05	RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.57	0.05	0.05	RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	9.80	0.04	0.04	RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	9.99	0.04	0.04	RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	9.99	0.04	0.04	RCD	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.78	0.04	0.04	RCD	No
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.80	0.00	0.07	Table K1	No
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.80	0.03	0.03	RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	19.37	0.00	0.00	RCD	No
<b>19.0 Mechanical Ventilation</b>						
<b>Mechanical Ventilation</b>						
Mechanical Ventilation System Present	Yes					
Approved Installation	Yes					
Mechanical Ventilation data Type	Database					
Type	Mechanical extract ventilation - decentralised					
MV Reference Number	500755					
Duct Type	Rigid					
Wet Rooms	3					
SFP from Installer Commissioning Certificate	No					
<b>19.1 Mechanical extract ventilation - Decentralised</b>						
SFP	Fan/Room Type	Count				
0.15	In Room Fan	1				
	Kitchen					
0.15	In Room Fan Other	2				
	Wet Room					
0.00	In Duct Fan Kitchen	0				
0.00	In Duct Fan Other	0				
	Wet Room					
0.11	Through Wall Fan	0				
	Kitchen					
0.14	Through Wall Fan	0				
	Other Wet Room					
<b>20.0 Fans, Open Fireplaces, Flues</b>						
Number of open chimneys	0					
Number of open flues	0					
Number of chimneys/flues attached to closed fire	0					

# Summary for Input Data

Number of flues attached to solid fuel boiler	0										
Number of flues attached to other heater	0										
Number of blocked chimneys	0										
Number of intermittent extract fans	0										
Number of passive vents	0										
Number of flueless gas fires	0										
<b>21.0 Fixed Cooling System</b>	No										
<b>22.0 Pressure Testing</b>	Yes										
Designed AP <sub>50</sub>	4.00	m <sup>3</sup> /(h.m <sup>2</sup> ) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
<b>22.0 Lighting</b>											
No Fixed Lighting	No										
	<table border="1"> <thead> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	10							
<b>24.0 Main Heating 1</b>	Database										
Percentage of Heat	100.00	%									
Database Ref. No.	104431										
Fuel Type	Electricity										
SAP Code	0										
Model Name	aroTHERM plus 7kW + AI										
Manufacturer	Vaillant Group UK Ltd										
Controls SAP Code	2207										
Delayed Start Stat	Yes										
Burner Control	Modulating										
HETAS approved System	No										
Is MHS Pumped	Pump in heated space										
Heating Pump Age	2013 or later										
Heat Emitter	Radiators										
Flow Temperature	Enter value										
Flow Temperature Value	55.00										
<b>25.0 Main Heating 2</b>	None										
<b>26.0 Heat Networks</b>	None										
<b>27.0 Secondary Heating</b>	None										
<b>28.0 Water Heating</b>											
Water Heating	Main Heating 1										
SAP Code	901										
Flue Gas Heat Recovery System	No										
Waste Water Heat Recovery Instantaneous System 1	No										
Waste Water Heat Recovery Instantaneous System 2	No										
Waste Water Heat Recovery Storage System	No										
Solar Panel	No										
Water use <= 125 litres/person/day	Yes										
Summer Immersion	No										
Cold Water Source	From mains										
Bath Count	1										

# Summary for Input Data



Supplementary Immersion	No
Immersion Only Heating Hot Water	No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 1	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1

## 28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder	Hot Water Cylinder
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	200.00
Loss	1.20
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

34.0 Small-scale Hydro	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	Yes
Electricity Generation	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None

# Summary for Input Data



Property Reference	The Watchmaker - DET			Issued on Date	14/10/2025					
Assessment Reference	001	Prop Type Ref	The Watchmaker - DET							
Property	The Watchmaker - DET									
SAP Rating	84 B	DER	3.15	TER	8.45					
Environmental	97 A	% DER < TER			62.72					
CO <sub>2</sub> Emissions (t/year)	0.49	DFEE	37.07	TFEE	38.04					
Compliance Check	See BREL	% DFEE < TFEE			2.55					
% DPER < TPER	26.30	DPER	32.64	TPER	44.29					
Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001					
Client										
<b>SUMMARY FOR INPUT DATA FOR: New Build (As Designed)</b>										
Orientation	North									
Property Tenure	ND									
Transaction Type	6									
Terrain Type	Suburban									
1.0 Property Type	House, Detached									
Which Floor	0									
2.0 Number of Storeys	2									
3.0 Date Built	2025									
3.0 Property Age Band	L									
4.0 Sheltered Sides	2									
5.0 Sunlight/Shade	Average or unknown									
6.0 Thermal Mass Parameter	Precise calculation									
Thermal Mass	0.00 kJ/m <sup>2</sup> K									
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
		Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
		Ground floor: 1.00 m	86.40 m <sup>2</sup>	2.39 m						
		1st Storey: 1.00 m	88.33 m <sup>2</sup>	2.61 m						
8.0 Living Area	17.77 m <sup>2</sup>									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.24	60.00	190.31	156.42	0.00	None	33.89	Enter Gross Area
9.2 Internal Walls						Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )			
Description	Construction					9.00	215.37			
Stud Partitions	Plasterboard on timber frame					75.00	110.85			
Block Partitions	Dense block, plasterboard on dabs									
10.0 External Roofs						Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )			
Description	Type	Construction	U-Value (W/m <sup>2</sup> K)	Kappa (kJ/m <sup>2</sup> K)	Gross Area(m <sup>2</sup> )	Nett Area (m <sup>2</sup> )	Shelter Code	Shelter Factor	Openings	Calculation Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.09	9.00	88.33	88.33	None	0.00	Enter Gross Area	0.00
10.2 Internal Ceilings						Area (m <sup>2</sup> )				
Description	Storey	Construction						88.33		
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor								
11.0 Heat Loss Floors						Area (m <sup>2</sup> )				
Description	Type	Storey Index	Construction	U-Value (W/m <sup>2</sup> K)	Shelter Code	Shelter Factor	Kappa (kJ/m <sup>2</sup> K)	Area (m <sup>2</sup> )		
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	86.40		

# Summary for Input Data

Heatloss Floor 2	Exposed Floor - Timber	+1	Timber exposed floor, insulation between joists	0.15	None	0.00	20.00	1.97
<b>11.2 Internal Floors</b>								
<b>Description</b>	<b>Storey Index</b>	<b>Construction</b>				<b>Kappa (kJ/m<sup>2</sup>K)</b>	<b>Area (m<sup>2</sup>)</b>	
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor				9.00	88.33	
<b>12.0 Opening Types</b>								
<b>Description</b>	<b>Data Source</b>	<b>Type</b>	<b>Glazing</b>	<b>Glazing Gap</b>	<b>Filling Type</b>	<b>G-value</b>	<b>Frame Type</b>	<b>Frame Factor</b>
Doors	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70
Windows	BFRCA, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.45		1.00
<b>13.0 Openings</b>								
<b>Name</b>	<b>Opening Type</b>	<b>Location</b>	<b>Orientation</b>	<b>Area (m<sup>2</sup>)</b>	<b>Pitch</b>			
Front Door	Doors	External Wall 1	North	2.02	0			
W1	Windows	External Wall 1	North	12.58	0			
W2	Windows	External Wall 1	East	0.67	0			
W3	Windows	External Wall 1	West	0.67	0			
W4	Windows	External Wall 1	South	15.98	0			
Utility Door	Doors	External Wall 1	South	1.97	0			
<b>14.0 Conservatory</b>								
		None						
<b>15.0 Draught Proofing</b>								
		100					%	
<b>16.0 Draught Lobby</b>								
		No						
<b>17.0 Thermal Bridging</b>								
<b>17.1 List of Bridges</b>								
<b>Bridge Type</b>	<b>Source Type</b>	<b>Length</b>	<b>Psi</b>	<b>Adjusted Reference:</b>	<b>Imported</b>			
E2 Other lintels (including other steel lintels)	Independently assessed	23.12	0.05	0.05		No		
E3 Sill	Independently assessed	16.17	0.02	0.02	RCD	No		
E4 Jamb	Independently assessed	46.80	0.01	0.01	RCD	No		
E5 Ground floor (normal)	Independently assessed	37.40	0.05	0.05	RCD	No		
E10 Eaves (insulation at ceiling level)	Independently assessed	19.15	0.05	0.05	RCD	No		
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	19.62	0.04	0.04	RCD	No		
E16 Corner (normal)	Non Gov Approved Schemes	25.20	0.04	0.04	RCD	No		
E6 Intermediate floor within a dwelling	Independently assessed	34.47	0.00	0.00	RCD	No		
E20 Exposed floor (normal)	Table K1 - Default	4.27	0.32	0.32		No		
E21 Exposed floor (inverted)	Table K1 - Default	2.93	0.32	0.32		No		
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.22	-0.10	-0.10	RCD	No		
<b>19.0 Mechanical Ventilation</b>								
<b>Mechanical Ventilation</b>								
Mechanical Ventilation System Present	Yes							
Approved Installation	No							
Mechanical Ventilation data Type	Database							
Type	Mechanical extract ventilation - decentralised							
MV Reference Number	500755							
Duct Type	Rigid							
Wet Rooms	6							
SFP from Installer Commissioning Certificate	No							
<b>19.1 Mechanical extract ventilation - Decentralised</b>								
<b>SFP</b>	<b>Fan/Room Type</b>	<b>Count</b>						
0.15	In Room Fan	1						
	Kitchen							
0.15	In Room Fan Other	5						
	Wet Room							
0.00	In Duct Fan Kitchen	0						
0.00	In Duct Fan Other	0						
	Wet Room							
0.11	Through Wall Fan	0						
	Kitchen							
0.14	Through Wall Fan	0						
	Other Wet Room							
<b>20.0 Fans, Open Fireplaces, Flues</b>								
Number of open chimneys	0							
Number of open flues	0							
Number of chimneys/flues attached to closed fire	0							
Number of flues attached to solid fuel boiler	0							

# Summary for Input Data

Number of flues attached to other heater	0											
Number of blocked chimneys	0											
Number of intermittent extract fans	0											
Number of passive vents	0											
Number of flueless gas fires	0											
<b>21.0 Fixed Cooling System</b>												
22.0 Pressure Testing	Yes											
Designed AP <sub>50</sub>	4.00											
Property Tested?	Yes											
Test Method	Blower Door											
<b>22.0 Lighting</b>												
No Fixed Lighting	<table border="1"> <tr> <td>No</td> </tr> <tr> <td>Name</td> <td>Efficacy</td> <td>Power</td> <td>Capacity</td> <td>Count</td> </tr> <tr> <td>Lighting 1</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </table>	No	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	10
No												
Name	Efficacy	Power	Capacity	Count								
Lighting 1	75.00	10.00	750.00	10								
<b>24.0 Main Heating 1</b>												
Percentage of Heat	100.00											
Database Ref. No.	104431											
Fuel Type	Electricity											
SAP Code	0											
Model Name	aroTHERM plus 7kW + AI											
Manufacturer	Vaillant Group UK Ltd											
Controls SAP Code	2207											
Delayed Start Stat	Yes											
Burner Control	Modulating											
HETAS approved System	No											
Is MHS Pumped	Pump in heated space											
Heating Pump Age	2013 or later											
Heat Emitter	Radiators											
Flow Temperature	Enter value											
Flow Temperature Value	55.00											
<b>25.0 Main Heating 2</b>												
<b>26.0 Heat Networks</b>												
<b>27.0 Secondary Heating</b>												
<b>28.0 Water Heating</b>												
Water Heating	Main Heating 1											
SAP Code	901											
Flue Gas Heat Recovery System	No											
Waste Water Heat Recovery Instantaneous System 1	No											
Waste Water Heat Recovery Instantaneous System 2	No											
Waste Water Heat Recovery Storage System	No											
Solar Panel	No											
Water use <= 125 litres/person/day	Yes											
Summer Immersion	No											
Cold Water Source	From mains											
Bath Count	1											
Supplementary Immersion	No											

# Summary for Input Data

Immersion Only Heating Hot Water

No

## 28.1 Showers

Description	Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To
Shower 2	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1
Shower 1	Combi boiler or unvented hot water system	8.00		No	
Shower 3	Combi boiler or unvented hot water system	8.00		No	

## 28.3 Waste Water Heat Recovery System

### 29.0 Hot Water Cylinder

Cylinder Stat	Hot Water Cylinder
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Cylinder Volume	250.00
Loss	1.40
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

## 31.0 Thermal Store

None

## 34.0 Small-scale Hydro

Electricity Generated	None
Apportioned	0.00
Connected to dwelling's electricity meter	0.00
Electricity Generation	Yes
	Annual

Jan      Feb      Mar      Apr      May      Jun      Jul      Aug      Sep      Oct      Nov      Dec

## Recommendations

### Lower cost measures

None

### Further measures to achieve even higher standards

None