



ABBEYCONSULTANTS

Energy & Sustainability Statement

Phase 1c

Brookleigh

Burgess Hill

West Sussex

Hill Group Limited & Homes England

Report No: PA-ES-HL-BH-25-01

Report Date: July 2025

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1. PROJECT DETAILS

Type of Application	Reserved Matters Application
Project Name	Phase 1c, Brookleigh
Project Address	Phase 1c, Brookleigh, Burgess Hill, West Sussex
Project Description	<p>Reserved matters application pursuant to Condition 2 attached to outline application ref. DM18/5144 as amended by (DM/21/3279)(dated 09/12/2022) to consider access, appearance, landscaping, layout and scale for parcels 1.7, 1.7b, 1.8 and OS1.8 comprising:</p> <ul style="list-style-type: none"> a) Eastern Neighbourhood Centre: Up to 270 residential dwellings and extra care units; commercial floorspace; the community building, the neighbourhood square, cycle and pedestrian connections, parking and associated infrastructure. b) Eastern Parkland comprising open space incorporating the multi-use games areas (MUGA), public art, green circle cycle link and associated infrastructure.
Applicant	Hill Group Limited & Homes England
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Report Issue Number	Date	Reason	Author
01	25/07/25	For Issue	MH
02			
03			

2. EXECUTIVE SUMMARY

Introduction

This Energy & Sustainability Statement has been prepared by Abbey Consultants (Southern) Ltd on behalf of Hill Group Limited & Homes England (the 'Applicant' hereafter), in support of the reserved matters application for the proposed development at Phase 1c, Brookleigh, Burgess Hill, West Sussex (hereafter 'the site').

The site forms part of the wider Northern Arc (Brookleigh) strategic allocation within Burgess Hill. Phase 1c is situated on the eastern site of the wider strategic site. This phase includes the sub-phases P1.7 and P1.8, OS 1.2 and EP (Eastern Park) totalling circa. 18 ha. The existing built form of Burgess Hill is to the south with the town centre approximately 1km away. The site is located within the administrative boundaries of Mid Sussex District Council.

The design proposal for this application includes:

"Reserved matters application pursuant to Condition 2 attached to outline application ref. DM18/5144 as amended by (DM/21/3279)(dated 09/12/2022) to consider access, appearance, landscaping, layout and scale for parcels 1.7, 1.7b, 1.8 and OS1.8 comprising:

- a) Eastern Neighbourhood Centre: Up to 270 residential dwellings and extra care units; commercial floorspace; the community building, the neighbourhood square, cycle and pedestrian connections, parking and associated infrastructure.*
- b) Eastern Parkland comprising open space incorporating the multi-use games areas (MUGA), public art, green circle cycle link and associated infrastructure."*

Outline consent was granted on the wider development in 2018 (reference DM/18/5114, as amended by DM/21/3279 dated 09/12/2022) for a phased, mixed-use development including approximately 3,040 dwellings.

This report has been prepared to address Condition 16 and 49 of the Decision Notice (ref. DM/21/3279). This report has also been prepared in accordance with the relevant requirements at both national and local level, as set out in the National Planning Policy Framework (2024) and Mid Sussex District Plan (2018).

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 residential element of the scheme 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. The non-residential element of the scheme has been assessed using the DesignBuilder SBEM software which uses the National Calculation Methodology (NCM). These combined assessments have 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.
- Where possible, the detailed design will follow Recognised Construction Details to ensure insulation continuity for minimising thermal bridging. All other thermal junctions will be independently assessed to ensure appropriate detailing, thus reducing heat loss.
- 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. Alternative heating systems are proposed which are detailed at the next stage of the energy hierarchy.

At the 'Be Green' stage, renewable/low carbon technology has then been introduced in the form of air source heat pumps (ASHPs) which will be used across the development. Firstly, individual ASHPs will efficiently supply the houses with space heating and hot water. The apartments (within Blocks A, B & C) will also implement ASHP technology in the form of Nilan Compact P units. These units are a combined ventilation and heating system. The extra care building and apartments will have their heating and hot water supplied via a communal ASHP. It is currently assumed that the extra care apartments will have Heat Interface Units (HIU) which will transfer the heat from the communal ASHP to the individual properties. Finally, the community centre and retail spaces will have their space heating and hot water supplied via ASHP technology in the form of a VRV/VRF system.

Although the proposed heating systems 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 CO₂ emissions savings

Stage of Energy Hierarchy	Regulated CO ₂ Emissions (tonnes/year)
Total Part L 2021 Baseline	297.27
Total After 'Be Lean'	295.71
Total After 'Be Green'	99.10
Total Saving	198.17
Total Improvement	67%

After all of the measures in the energy strategy have been accounted for, the proposed development achieves an overall on-site reduction of 67% in regulated carbon dioxide emissions over Part L 2021. This equates to an annual saving of an estimated 198.17 tonnes in regulated CO₂ emissions.

Sustainability Strategy

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

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

- An outline specification of the proposed water saving measures to ensure the water usage of each dwelling is less than 110 litres per person per day. This is in line with the requirements of Mid Sussex District Council's Condition 49 and Policy DP42 of the Mid Sussex District Plan (2018).
- Electric Vehicle (EV) Charging Points to be included throughout the proposed development.

- 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.
- A Travel Plan has been developed to promote active and sustainable transport modes.
- Ecology/Landscaping – initial calculations show that a voluntary net gain in biodiversity of at least 10% will be achieved on-site
- The drainage strategy utilises SuDS including detention basins, swales and permeable paving
- 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 Hill Group Limited & Homes England in support of the planning application for the proposed development at Phase 1c, Brookleigh, Burgess Hill, West Sussex located in

The site forms part of the wider Northern Arc (Brookleigh) strategic allocation within Burgess Hill. Phase 1c is situated on the eastern site of the wider strategic site. This phase includes the sub-phases P1.7 and P1.8, OS 1.2 and EP (Eastern Park) totalling circa. 18 ha. The existing built form of Burgess Hill is to the south with the town centre approximately 1km away. The site is located within the administrative boundaries of Mid Sussex District Council.

The proposed development is described as:

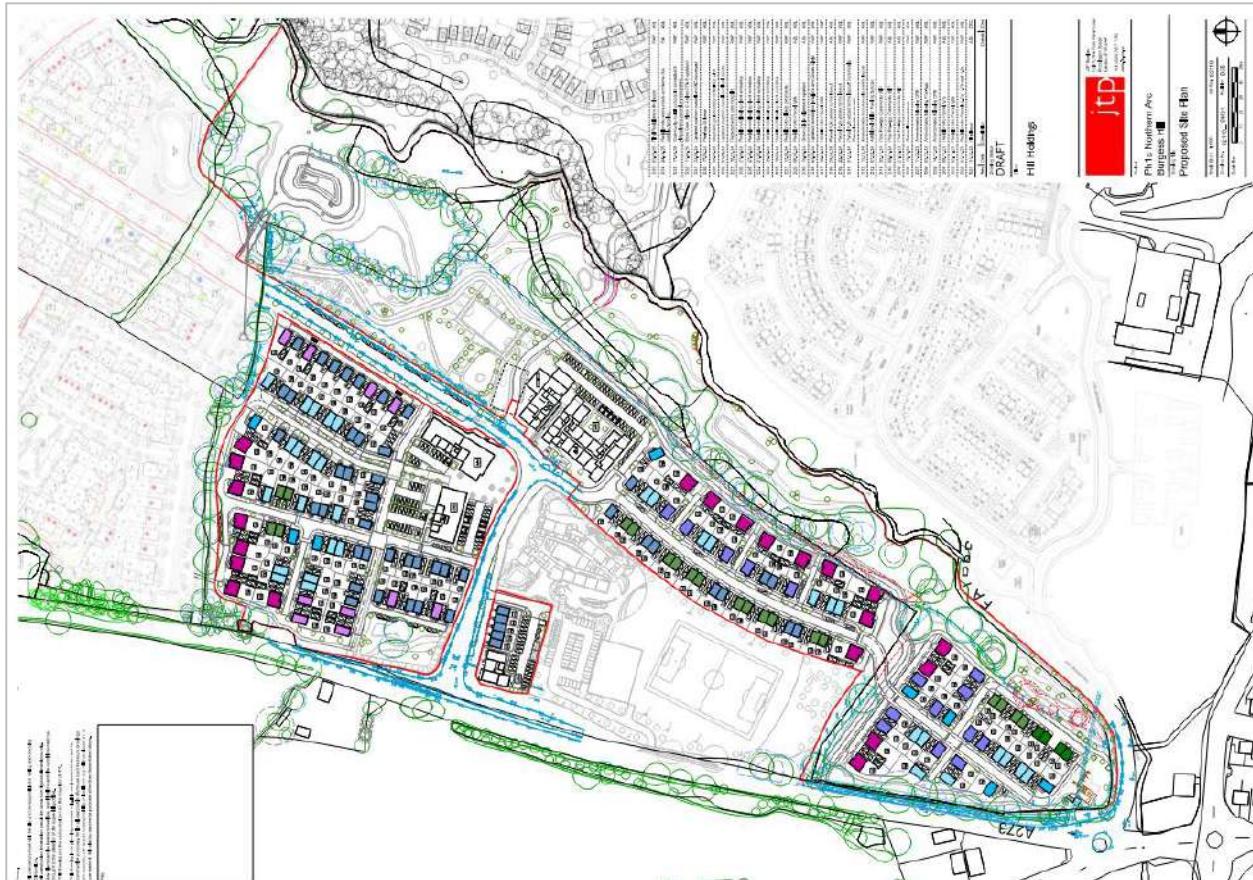
"Reserved matters application pursuant to Condition 2 attached to outline application ref. DM18/5144 as amended by (DM/21/3279)(dated 09/12/2022) to consider access, appearance, landscaping, layout and scale for parcels 1.7, 1.7b, 1.8 and OS1.8 comprising:

- a) *Eastern Neighbourhood Centre: Up to 270 residential dwellings and extra care units; commercial floorspace; the community building, the neighbourhood square, cycle and pedestrian connections, parking and associated infrastructure.*
- b) *Eastern Parkland comprising open space incorporating the multi-use games areas (MUGA), public art, green circle cycle link and associated infrastructure."*

Outline consent was granted on the wider development in 2018 (reference DM/18/5114, as amended by DM/21/3279 dated 09/12/2022) for a phased, mixed-use development including approximately 3,040 dwellings.

Figure 1 details the proposed site layout.

Figure 1: Proposed Site Plan



This report will aim to address Condition 16 and 49 of the Decision Notice (ref. DM/21/3279) and will be in accordance with the relevant planning requirements at both national and local level, as set out in the National Planning Policy Framework (2024) and Mid Sussex District Plan (2018).

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 CO₂ 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 CO₂ 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 POLICY

Mid Sussex District Council

Mid Sussex District Local Plan (2014-2031)

Adopted March 2018

Policy DP39: Sustainable Design and Construction

Strategic Objectives: 1) To promote development that makes the best use of resources and increases the sustainability of communities within Mid Sussex, and its ability to adapt to climate change.

Evidence Base: Gatwick Sub Region Water Cycle Study; West Sussex Sustainable Energy Study, Mid Sussex Sustainable Energy Study.

All development proposals must seek to improve the sustainability of development and should where appropriate and feasible according to the type and size of development and location, incorporate the following measures:

- Minimise energy use through the design and layout of the scheme including through the use of natural lighting and ventilation;
- Explore opportunities for efficient energy supply through the use of communal heating networks where viable and feasible;
- Use of renewable sources of energy;
- Maximise efficient use of resources, including minimising waste and maximising recycling/re-use of materials through both construction and occupation;

- Limit water use to 110 litres/person/day in accordance with Policy DP42: Water Infrastructure and the Water Environment;
- Demonstrate how the risks associated with future climate change have been planned for as part of the layout of the scheme and design of its buildings to ensure its longer term resilience.

Mid Sussex District Council**Draft Mid Sussex District Local Plan (2021-2039)**

The council have commenced work on the preparation of the replacement Local Plan 2021-2039 which will supersede the policies contained within the 2018 Local plan.

Mid Sussex District Council submitted the draft Local Plan for examination in July 2024 with the preliminary hearings taking place in the autumn 2024. The Inspector wrote to Mid Sussex District Council in November 2024, to request provision of further evidence covering a range of topics including the duty to cooperate, legal compliance, transport, housing and flood risk. Mid Sussex District Council published responses to the requested action points on the 28th March 2025. It is likely that further engagement will be undertaken in 2025, before the inspectorate make a recommendation on whether the local plan can be adopted and implemented, or found unsound.

4.3. PLANNING CONDITIONS

The following report sets out the intentions of the Applicant, in support of the discharging of Mid Sussex District Council's Conditions 16 and 49 of Outline Planning Permission (reference DM/18/5114, as amended by DM/21/3279 dated 09/12/2022).

The Conditions read as detailed below:

Condition 16

No development shall proceed within each reserved matters area unless and until a Sustainability Statement for that reserved matters area has been submitted to and approved in writing by the local planning authority. The development of that reserved matters area shall proceed in accordance with such approved details unless otherwise agreed in writing with the local planning authority.

Reason: In interests of sustainability and to accord with Policy DP39 of the Mid Sussex District Plan.

Condition 49

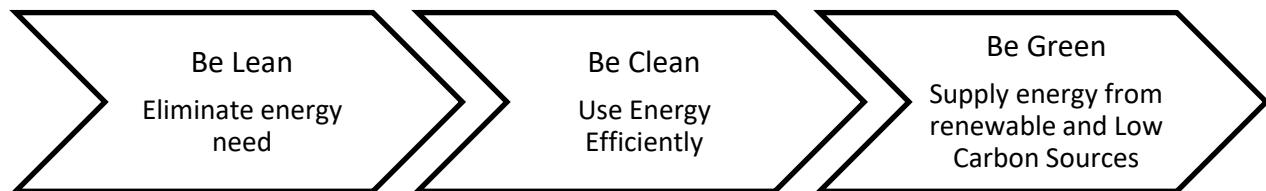
No residential unit within each of the reserved matters areas shall be occupied unless and until it has been demonstrated that each dwelling within that reserved matters area will have incorporated measures to reduce potable water demand to below the 110 litres per person per day required by Part G of the Building Regulations.

Reason: In the interests of minimising water consumption and to comply with policy DP42 of the Mid Sussex District Plan.

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 CO₂ 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 CO₂ 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

The CO₂ emissions reduction methodology requires separate assessments for the residential and non-residential floor space. The results from these assessments will be combined to provide an overall CO₂ emissions reduction for the entire development.

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 CO₂ 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 CO₂ performance of the residential development.

An initial assessment of the CO₂ performance of the non-residential unit is carried out using the DesignBuilder SBEM software. DesignBuilder SBEM software is an approved tool for calculating compliance with Part L2 2021, which uses the National Calculation Methodology (NCM).

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 CO₂ EMISSIONS

In order to assess the energy demand and CO₂ performance of the proposed energy strategy, a baseline needs to be established. This section sets out the approach taken to calculating the baseline CO₂ emissions for the development.

The total baseline CO₂ emissions for the proposed development is defined as regulated CO₂ emissions, which is covered by Building Regulations Part L. Regulated CO₂ emissions are calculated from the CO₂ emissions associated with space heating, hot water and fixed electrical demands (for lights, fans and pumps).

Unregulated CO₂ emissions are those that are associated with appliances. Unregulated CO₂ emissions are not covered by Part L and are therefore not included as part of the assessment detailed within this energy strategy.

CO₂ 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 is based on the Part L1 2021 Target Emission Rate (TER) performance of representative dwellings. The baseline CO₂ 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 CO₂ 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
1B2F Flat TF	6
1B2P Flat EF	4
1B2P Flat EF Corner (Extra Care)	2
1B2P Flat EF Mid (Extra Care)	5
1B2P Flat GF	2
1B2P Flat GF Corner (Extra Care)	2
1B2P Flat MF	6
1B2P Flat MF Corner (Extra Care)	9
1B2P Flat MF Mid (Extra Care)	19
1B2P Flat TF Corner (Extra Care)	6
1B2P Flat TF Mid (Extra Care)	12
2B4P Flat EF	9
2B4P Flat GF	2
2B4P Flat GF (Extra Care)	5
2B4P Flat MF	9
2B4P Flat TF	11
Affordable SD	4
Bindon DET	10
Farleigh DET	7
Farleigh SD	26
Haddington DET	15
Kings DET	8
Purbeck SD	20
Wainwright DET	21
Walbury DET	19
Walbury SD	31
TOTAL:	270

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 for the residential element of the proposed development.

For the non-residential element of the proposed development, the CO₂ emissions baseline is determined based on the Part L2 2021 Target Emission Rate (TER) TER. The baseline CO₂ emissions calculated using the DesignBuilder SBEM software are based on the calculation of energy consumption of a 'notional' building defined by the National Calculation Methodology (NCM). The DesignBuilder SBEM modelling software produces results in the form of BRUKL reports, and these have been provided within the appendices.

The non-residential space that has been modelled is detailed in the table below.

Table 3: Non-Residential Space

Building Type	SBEM Total Modelled Floor Area
Retail Spaces	1,057.65m ²
Community Centre	972.48m ²
Extra Care Building (Communal Areas)	1,200.82m ²

5.4. TOTAL BASELINE CO₂ EMISSIONS

The total baseline regulated CO₂ emissions for the development are summarised below.

Table 4: Total Baseline CO₂ emissions

Stage of Energy Hierarchy	Regulated CO ₂ Emissions (tonnes/year)
Part L 2021 Baseline	297.27

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 CO₂ 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, and this will be combined with high performance glass 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.

Table 5: Proposed Fabric Specification for the Residential Element

Element	Part L1 2021 Minimum Fabric Requirements	Proposed Specification
Ground Floor	0.18 W/m ² K	0.12 W/m ² K
Exposed Floor	0.18 W/m ² K	0.12 W/m ² K
External Wall	0.26 W/m ² K	0.18 W/m ² K
Communal Wall	0.26 W/m ² K	0.26 W/m ² K
Party Wall	0.20 W/m ² K	0.00 W/m ² K
Roof – insulated at ceiling	0.16 W/m ² K	0.11 W/m ² K
Roof – flat	0.16 W/m ² K	0.11 W/m ² K
Roof – insulated at slope	0.16 W/m ² K	0.13 W/m ² K
Windows	1.60 W/m ² K	U = 1.20 W/m ² K G = 0.33 BFRC Certificate
Entrance Doors	1.60 W/m ² K	1.20 W/m ² K

Table 6: Proposed Fabric Specification for the Non-Residential Element

Element	Part L2 2021 Minimum Fabric Requirements	Proposed Specification
Ground Floor	0.18 W/m ² K	0.12 W/m ² K
External Wall	0.26 W/m ² K	0.18 W/m ² K
Roof – insulated at ceiling	0.16 W/m ² K	0.11 W/m ² K
Roof – flat	0.16 W/m ² K	0.11 W/m ² K
Roof – insulated at slope	0.16 W/m ² K	0.13 W/m ² K
Windows	1.60 W/m ² K	U = 1.20 W/m ² K G = 0.33 BFRC Certificate
Entrance Doors	1.60 W/m ² K	1.20 W/m ² 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. Where Recognised Construction Details are not applicable, it will be necessary to independently assess each junction. By ensuring that approved construction detailing is designed into the build, CO₂ 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 air tightness level will be set at 4.00m³/h/m². This is a significant improvement upon the Part L 2021 minimum requirement of 8.00m³/h/m². 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 CO₂ emissions.

6.2.1. SPACE HEATING AND HOT WATER

It is proposed that the houses 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 extra care building and apartments will have their heating and hot water supplied via a communal air source heat pump. It is currently assumed that the extra care apartments will have Heat Interface Units (HIU) which will transfer the heat from the communal air source heat pump to the individual properties.

The remaining apartments (Blocks A, B & C) will also implement air source heat pump technology in the form of Nilan Compact P units. These units are a combined ventilation and heating system.

The community centre and retail spaces will have their space heating and hot water supplied via air source heat pump technology in the form of a VRV/VRF system.

Due to the nature of the energy hierarchy being adhered to in this energy strategy, the CO₂ 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 houses and extra care apartments 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.

The remaining apartments (Blocks A, B & C) will improve their energy performance further with, mechanical ventilation with heat recovery (system 4). This is integral to the Nilan Compact P units that have been specified to these dwellings.

In terms of the non-residential element, the retail units and community centre will have their ventilation served via the VRF system. This system currently has an assumed Specific Fan Power (SPF) of 1.1 and an assumed heat recovery of 85%. The communal areas of the extra care building will utilise natural ventilation with standard intermittent extract fans to wet rooms and background ventilation (system 1).

6.2.3. MECHANICAL COOLING

At this stage, it is considered that mechanical cooling will need to be provided to the community centre and retail spaces in order to ensure a comfortable indoor climate in the summer months. The cooling requirement has been minimised by the proposed solar gain control measures. Cooling will be effectively provided by an energy efficient cooling system such as a Variable Refrigerant Flow (VRF) system. It is recommended to select a VRF system with high Seasonal Energy Efficiency Ratings (SEER). A SEER of 8.53 has been assumed for modelling purposes.

The residential apartments (within Blocks A, B & C) have a cooling facility via the specified Nilan Compact P units. The integral heat pump within these units has a reversible cooling circuit, which means that in the summer, the units can cool the supply air by up to 10°C.

For the houses and extra care building it is currently considered that cooling requirements during the hot summer months will be met via openable windows and mechanical ventilation with enhanced ventilation rates (where applicable).

The final cooling strategy will be determined as the design stage once the full overheating assessment has been completed.

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.

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. CO₂ 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 1%. The total 'Be Lean' CO₂ emissions have been summarised below and compared against the baseline figure.

Table 7: Total 'Be Lean' CO₂ emissions

Stage of Energy Hierarchy	Regulated CO ₂ Emissions (tonnes/year)
Total Part L 2021 Baseline	297.27
Total After 'Be Lean'	295.71
Total Saving	1.56
Total Improvement	1%

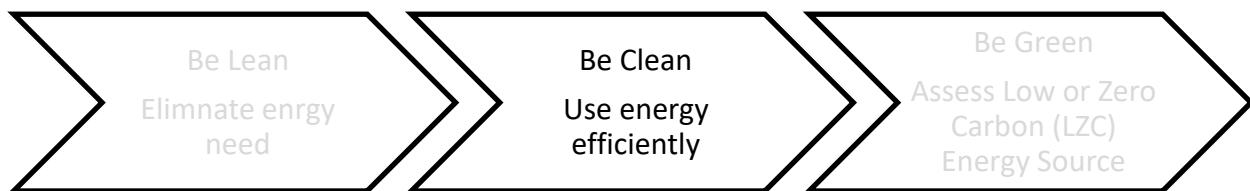
The Target Fabric Energy Efficiency rate is the minimum energy performance requirement, as stipulated by Building Regulations Part L1 2021, for all new residential dwellings. It is expressed as the amount of energy demand in units of kilowatt-hours per square metre of floor area per year. This performance 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 1%, as detailed in the table below.

Table 8: Residential FEE Performance

Element	Target Fabric Energy Efficiency (TFEE) kWh/m ² /year	Dwelling Fabric Energy Efficiency (DFEE) kWh/m ² /year	Improvement (%)
Residential Total	35.89	35.57	1%

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 CO₂ emissions savings. However, technology such as this is more significant for larger developments. The proposed development is at the lower end of what the industry tends to view as viable for such systems. The development is predominantly residential 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 air source 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 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. In addition, ASHP technology will also be utilised on the non-residential element of this development, in the

form of a VRV/VRF system. This will be deployed to the non-residential space to provide it with efficient space heating and cooling.

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.

8.2. NILAN COMPACT P

The Nilan Compact P is a combined ventilation and heating system designed to provide fresh air and warmth to homes and buildings. This system is unique in that it can recover up to 95% of the energy as waste heat from the air and turn it into hot water, making it a highly energy-efficient option.

One of the key features of the Nilan Compact P is its ability to provide ventilation, heating and cooling as well as 170l of domestic hot water in one compact unit. This means there is no need for separate ventilation, heating and hot water systems, saving space and reducing the number of components that need to be installed.

Compact P recovers the energy from the extracted air using a highly efficient counter flow heat exchanger. The remaining energy that is not utilised by the counter flow heat exchanger is used by the heat pump to produce hot water, and to further heat the supply air.

The heat pump has a reversible cooling circuit, which means that, in the summer, the unit can cool the supply air by up to 10 °C. Due to the low air exchange, the cooling does not function as an air conditioning system. On cooling, the supply air is dehumidified, which gives a more pleasant indoor climate than is possible with an ordinary ventilation unit without a heat pump.

In addition to its energy-efficient design, the Nilan Compact P also has a number of other features that make it an attractive option for many different types of buildings. For example, it is very quiet in operation, making it ideal for use in residential homes. It also has a built-in humidifier, which can help to improve indoor air quality.

The use of the Nilan Compact P is proposed for the apartments on this development to efficiently supply the dwellings with ventilation, heating, hot water and cooling.

Although the Nilan Compact P units 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 2: Diagram of the Nilan Compact P



8.3. SUMMARY OF PROPOSED BUILDING SERVICES

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

Table 9: Summary of Building Services for the Residential Houses

Building Service Element	Specification
Heating:	Air Source Heat Pumps Vaillant aroTHERM plus range (appropriate heat pump to be selected based on size of each property)
Heating Emitter:	Radiators
Secondary Heating:	None
Heating & Hot Water Controls:	Time and Temperature Zone Control
Cylinder:	Hot water cylinder (capacity to be confirmed)
Heat Loss:	1.0 – 2.0 kWh/24 Hr
Mechanical Ventilation:	Mechanical Ventilation System 3 – dMEV fans to wet rooms and kitchens
Showers:	Flow rate – 8 litres per minute

Table 10: Summary of Building Services for the Residential Apartments (Blocks A, B & C)

Building Service Element	Specification
Heating:	Air Source Heat Pumps Nilan Compact P units
Secondary Heating:	None
Heating & Hot Water Controls:	Time and Temperature Zone Control
Cylinder:	Integral hot water cylinder (Nilan Compact P)
Heat Loss:	0.84 kWh/24 Hr
Mechanical Ventilation:	Mechanical Ventilation System 4 – Mechanical Ventilation with Heat Recovery (MVHR)
Showers:	Flow rate – 8 litres per minute

Table 11: Summary of Building Services for the Extra Care Apartments

Building Service Element	Specification
Heating:	Communal Air Source Heat Pump Estimated Overall Efficiency = 300%
Secondary Heating:	None
Heating & Hot Water Controls:	Charging system linked to use of community heating, programmer and TRVs
Hot Water:	Heat Interface Unit (HIU) connected to communal system
Heat Loss:	1.46 kWh/24 Hr
Mechanical Ventilation:	Mechanical Ventilation System 3 dMEV fans to wet rooms and kitchens
Showers:	Flow rate – 8 litres per minute

The building services and systems to be employed within the non-residential element are summarised in the following table.

Table 12: Summary of Building Services for Retail Spaces

Building Service Element	Specification
Heating & Hot Water:	ASHP VRF (Assumed SEER = 5.84)
Cooling:	ASHP VRF (Assumed SEER = 8.53)
Ventilation:	VRF (Assumed SFP = 1.1 & Heat Recovery = 85 %)
Lighting:	120 lm/W

Table 13: Summary of Building Services for Community Centre

Building Service Element	Specification
Heating & Hot Water:	ASHP VRF (Assumed SEER = 5.84)
Cooling:	ASHP VRF (Assumed SEER = 8.53)
Ventilation:	VRF (Assumed SFP = 1.1 & Heat Recovery = 85 %)
Lighting:	120 lm/W

Table 14: Summary of Building Services for Extra Care Building (Communal Areas)

Building Service Element	Specification
Heating & Hot Water:	Communal Air Source Heat Pump (Assumed SEER = 3.39)
Cooling:	None
Ventilation:	System 1 – Natural ventilation with standard intermittent extract fans
Lighting:	120 lm/W

8.4. CO₂ 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 67% improvement is achieved in comparison to the Building Regulations Part L baseline.

Table 15: Total 'Be Green' CO₂ emissions

Stage of Energy Hierarchy	Regulated CO ₂ Emissions (tonnes/year)
Total Part L 2021 Baseline	297.27
Total After 'Be Lean'	295.71
Total After 'Be Green'	99.10
Total Saving	198.17
Total Improvement	67%

9. FUTURE HOMES & BUILDING STANDARD

The Future Homes Standard, renamed the Future Homes and Buildings Standard in December 2021, will complement the Building Regulations to ensure new homes built from 2025 produce 75-80% less carbon emissions than 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, some 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 Mid Sussex 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 16: 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	Residential Houses – Individual Air Source Heat Pumps Residential Apartments – Nilan Compact P Extra Care Building – Communal Air Source Heat Pumps Retail Units & Community Centre – ASHP VRF system
Hot Water	Residential – Hot Water Cylinders (water heated via ASHP) Non-Residential – ASHP VRF system
Mechanical Cooling	Residential Apartments – via Nilan Compact P units Retail Units & Community Centre – via VRF system
Ventilation	Low design air permeability (DAP) Houses & Extra Care Apartments – Mechanical extract ventilation (system 3) Apartments – Mechanical ventilation with heat recovery (system 4) via Nilan Compact P Extra Care Building (Communal Areas) – Natural ventilation (system 1) Retail Units & Community Centre – ASHP VRF system
Lighting	Energy efficient LED Lighting where applicable
Low Carbon Technologies	ASHP technology as detailed above

10.1. TOTAL CO₂ EMISSIONS SAVINGS

The summary of the overall reduction in regulated CO₂ emissions after each stage of the energy hierarchy is summarised in the table below.

Table 17: Energy Strategy Carbon Emissions Summary

Stage of Energy Hierarchy	Regulated CO ₂ Emissions (tonnes/year)
Total Part L 2021 Baseline	297.27
Total After 'Be Lean'	295.71
Total After 'Be Green'	99.10
Total Saving	198.17
Total Improvement	67%

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 1% reduction over the minimum standards defined by Building Regulations Part L1 2021 (TFEE).
- Utilises low carbon technology air source heat pump technology throughout.
- Estimated to annually reduce 197.80 tonnes of regulated CO₂ emissions compared to the Building Regulations Part L 2021 baseline
- Achieves an overall reduction in regulated CO₂ emissions of 67% 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 3: Waste Hierarchy

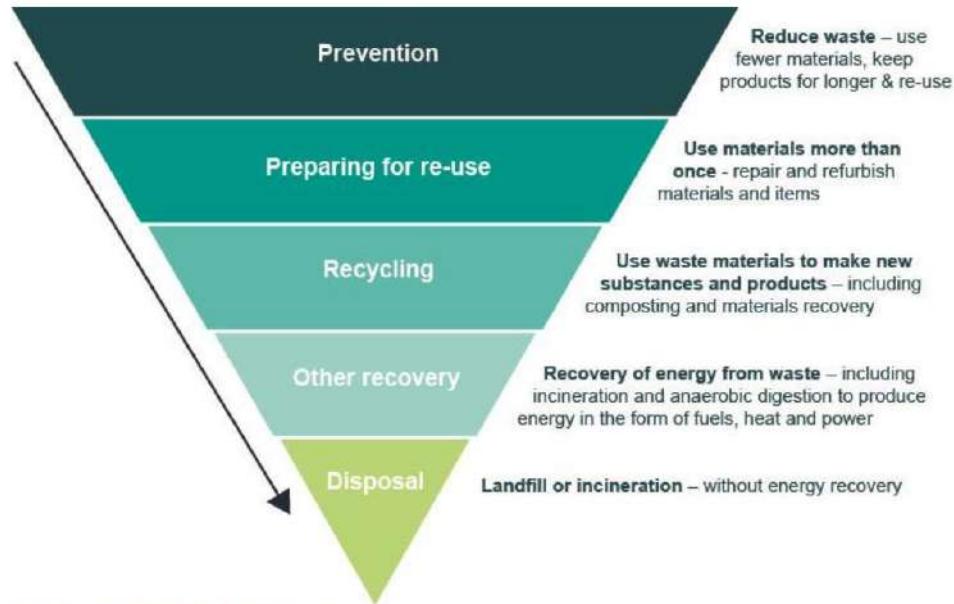


Figure 4.1: The Waste Hierarchy, Defra 2011

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:

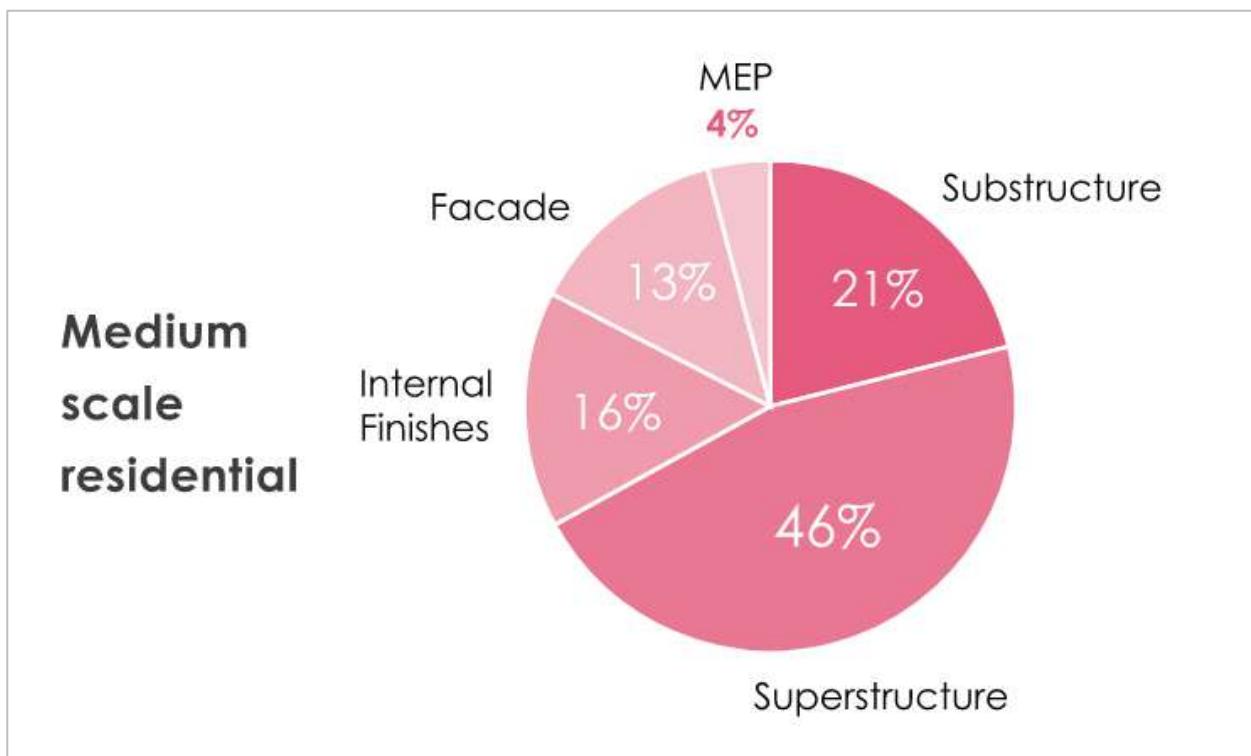
1. Build less: Refurb and re-use.
2. Build light: Consider the building structure.
3. Build wise: Longevity and local context.
4. Build low carbon: Review material specifications.

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 4: Relative Proportions of Embodied Carbon by Building Element



11.2. 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.

11.3. WATER EFFICIENCY

11.3.1. HOUSEHOLD WATER USE

Household water reduction measures will include the following where applicable:

- Water efficient taps.
- Water efficient cisterns.
- Low output showers.
- Flow restrictors to manage water pressures to achieve optimum levels.
- Water meters to all premises with guidance on water consumption and savings.

The following specification (or similar) will be adopted on the development to ensure that the water consumption of the residential dwellings is limited to 110 litres per person per day. This minimises water consumption in line with the requirements of Mid Sussex District Council's Condition 49 and Policy DP42 of the Mid Sussex District Plan (2018).

Table 18: Specification of flow rates and volumes for water using appliances

Water using Appliance	Comment
WC Cisterns	Dual Flush to be limited to maximum of 6/3
Baths	Capacity no greater than 190 litres
Basin taps	Flow rates to be no greater than 3 litres/minute at 3 bar
Kitchen taps	Flow rates to be no greater than 6 litres/minute at 3 bar
Shower	Flow rates to be no greater than 8 litres/minute
Water softener	Not to be installed
Washing Machine	Water usage to be limited to 8.17 Litres per KG
Dishwasher	Water Usage to be limited to 1.25 litres per place setting

Table 19: Water Calculations

Water Calculations					
Installation Type	Unit	Capacity/	Use Factor	Fixed use	Total Use
		Flow Rate		(l/p/day)	(l/p/day)
WC Single Flush	Volume (l)	0.00	4.42	0.00	0.00
WC Dual Flush	Full Flush (l)	6.00	1.46	0.00	8.76
	Pt Flush (l)	3.00	2.96	0.00	8.88
WC's (Multiple)	Volume (l)	0.00	4.42	0.00	0.00
Taps Exc. Kitchen	Flow Rate (l/min)	3.00	1.58	1.58	6.32
Bath (shower present)	(l/min)	190.00	0.11	0.00	20.90
Shower (bath present)	(l/min)	8.00	4.37	0.00	34.96
Bath Only	(l)	0.00	0.50	0.00	0.00

Shower Only	(l/min)	0.00	5.60	0.00	0.00
Kitchen Taps	(l/min)	6.00	0.44	10.36	13.00
Washing Machines	(l/kg dry)	8.17	2.10	0.00	17.16
Dishwashers	(l/place)	1.25	3.60	0.00	4.50
Waste Disposal	(l/min)	0.00	3.08	0.00	0.00
Water Softener	(l/min)	0.00	1.00	0.00	0.00
Total Calculated Water Use (l/p/day)					114.50
Grey/Rain Water Reused (l)					0.00
Normalisation Factor	(Factor)				0.91
Total Internal Consumption (l/p/day)					104.20
External Water Use Allowance (l)					5.00
Total Consumption Part G (l/p/day)					109.20

11.3.2. CONSTRUCTION PHASE

Water efficiency is considered during the construction process and the following practices on site will reduce usage and waste:

- High pressure low volume power hoses
- Waterless wheel washing
- Installing water meters and monitoring, reporting and setting targets for water consumption

11.4. ENABLING SUSTAINABLE LIFESTYLES, HEALTH AND WELL-BEING

11.4.1. ELECTRIC VEHICLE (EV) CHARGING STRATEGY

The Applicant is committed to implementing EV charging facilities in accordance with the local planning policy requirements and Building Regulations Approved Document S (infrastructure for charging electric vehicles).

11.4.2. ACCESS TO NATURE

As part of the proposed Landscape Strategy, green infrastructure will be woven throughout the scheme. Open amenity space will be a key feature of the development. Private back gardens will be provided to the houses.

The scheme will incorporate areas of visually attractive meadow grassland, tussock grassland, short sward/amenity grassland, trees, orchard planting, woodland scrub, hedgerows and ground flora.

Through the provision of planting and soft landscaping in both private and public spaces across the scheme, future residents will have ample access to nature on their doorsteps. This will contribute to the health and well-being of the future residents by aiding in reducing stress and improving mental health.

11.4.3. AIR QUALITY

By providing EV charging infrastructure, future residents will be encouraged to reduce their reliance on conventional combustion-engine vehicles. The associated pollutants, such as sulphurous oxides (SO_x) and nitrous oxides (NO_x), will be reduced, thus contributing to improved local air quality.

The extensive planting, planned as part of the proposed Landscape Strategy, will also contribute to the improvement of local air quality. This will be supported through the delivery of additional green infrastructure, as well as extensive tree and vegetation planting.

11.4.4. COMMUNAL SPACE

Amenity open space will be provided at various locations throughout the development. This will aid in bringing green space into the developed area and softening the built form.

The site will incorporate meadow grassland and tree planting for amenity value. Communal areas of open space will be included at the Isaac Lane frontage and Eastern Parkland, with areas of play in the form of a Locally Equipped Area for Play (LEAP) and a Multi-Use Games Area (MUGA) located in the Eastern Parkland. The Green Circle (shared 3.0m wide footpath and cycleway and 3.0m wide bridleway) is located north to south and the Green Superhighway (5m) is located east to west through the Eastern Parkland to encourage healthy activity.

The delivery of well designed accessible and inclusive public spaces will offer residents spaces to socialise and engage with each other, encouraging interaction and opportunities to benefit from healthy lifestyle choices.

11.4.5. DAYLIGHT & SUNLIGHT

Access to daylight and sunlight is associated with numerous health benefits, including improved sleep and mental health.

As is demonstrated within the proposed masterplan, the dwellings will be spaced accordingly to ensure that overshadowing is minimised, and the levels of natural daylight availability within the dwellings is maximised.

The proposed fenestration will be balanced to provide optimal levels of daylight, whilst also mitigating the risk of overheating.

Areas of open space, both public and private, have been configured to ensure the levels of sunlight received are sufficient for creating desirable external environments.

11.4.6. ENCOURAGING ACTIVE LIVING & SUSTAINABLE TRANSPORT

A Transport Assessment Addendum, dated June 2025, has been prepared by GTA Civils & Transport Ltd in support of this reserved matters application. This details how the future residents' use of safe, healthy and sustainable travel options will be encouraged. The Addendum report also makes reference to the Transport Assessment submitted as part of the original outline consent (Ref: DM/18/5114).

Access to local amenities has been considered, and there are a wide range of amenities found to be within a 2km distance (or 25 minute walk) from the site. These local amenities include the following:

- Healthcare facilities
- Educational facilities
- Leisure/recreation facilities
- Places of Worship
- Public Transport Connections
- Groceries/Supermarkets

The Brookleigh development has been designed as a ten-minute neighbourhood. With three neighbourhood centres, every home in the development will be within a ten-minute walking radius from local shops and facilities so people can pick up what they need easily and quickly within the local area.

The Brookleigh development will provide over 16km of new footways and cycle paths to encourage future residents to travel by non-car means and connect to local amenities within a 2km walking distance of the development.

A green superhighway will be provided alongside the spine road provided for the overall development. This will provide an active travel route and connection options for pedestrians and cyclists to access amenities provided within the development and within the local area.

In terms of public transport, the nearest existing bus stop are located more than 400m from the site. However, new bus stops are proposed within the Northern Arc development with proposals for an east-west bus route connecting the western sections of the northern arc to the east and allowing connections on to Wivelsfield and beyond. It is also proposed that the existing 33 bus service is enhanced to run via the new Green Superhighway to provide connections to Hayward's Heath and Crawley.

For rail based travel, the nearest station to the Site is Wivelsfield Station, approximately 2.5km southeast from the centre of the Site. Burgess Hill Station is located in the town centre, approximately 3.1km southeast from the centre of the Site. Both stations are managed by Southern Rail but also served by a number of Thameslink services.

A comprehensive public transport strategy has been developed as part of the Transport Assessment process in order to ensure that the development promotes sustainable travel.

Pedestrian and cycle infrastructure in the vicinity of the site is limited and improvements will be provided as part of the development to connect the site with Burgess Hill and beyond.

Cycle parking is to be provided in accordance with West Sussex County Council's standards and cycle routes are to be provided within the development to encourage the usage of cycle journeys for short journeys to local amenities within the development and Burgess Hill area.

11.4.7. SECURITY

Natural surveillance in the form of doors and windows overlooking streets, pedestrian routes and public open spaces will create activity throughout the day and evening and will be an essential element in creating a safe environment for all users, whilst discouraging criminal activity by increasing the risk of detection.

11.4.8. RECYCLING AND WASTE MANAGEMENT

Sustainable behaviour will be encouraged and recycling and household waste facilities will be provided. Internal and external storage spaces will be designed to satisfy the Mid Sussex District Council's waste bin specification for the removal of general household waste, recyclable waste and garden waste respectively.

11.4.9. PROVISION OF BROADBAND FOR HOME WORKING

The availability of broadband connections is essential in ensuring that people remain connected and are able to access a range of services effectively.

The dwellings will allow for broadband connection for the future occupants. The homes will also have space for office facilities to facilitate home working. The mechanical and electrical layouts will be such that services (power points, telephone cabling, etc) can be located in a suitable location within the property.

11.5. ECOLOGY

11.5.1. ECOLOGICAL WALKOVER SURVEY

The Applicant commissioned Middlemarch to undertake an Ecological Walkover Survey of the site, which was undertaken on 12th September 2024. During which the location and extent of all habitat types present within the site were noted. The presence, or likely presence, of protected species within the site was also recorded.

The site has been subject to previous ecological surveys conducted by AECOM in 2018/2019 to support an outline planning application for the wider Northern Arc Development area. Zebra Ecology completed a Preliminary Ecological Appraisal in 2023 to update findings and support a reserved matters application in relation to the Northern Arc Phase 1C development.

On-site habitats include lowland deciduous woodland, a habitat of principle importance. This priority habitat extends into the site on the eastern boundary and forms a buffer between the development site and the River Adur. The site has been historically used for agricultural purposes. An unmanaged, established, species-rich hedgerow is present within Parcel A, running from east to west, separating an area of modified grassland. Grassland swards were species-poor across the whole application site. Parcel A's western boundary constitutes a hedgerow with many large trees. An established tree line and a number of scattered trees are also present within Parcel A and Parcel B respectively. Remaining habitats present on site include dense scrub and bare ground.

Key species were also considered during the ecological walkover and the findings are fully detailed within Middlemarch's report.

The Ecological Walkover Survey makes the several recommendations which will be implemented/undertaken as part of the development proposals.

11.5.2. BIODIVERSITY NET GAIN

Middlemarch has prepared a Biodiversity & Metric Statement, dated June 2025, of the proposed development.

The biodiversity calculations used within the assessment have been undertaken using the Biodiversity Metric 2.0 calculation tool (Natural England, 2019) and associated Metric 2.0 Technical Supplement (Crosher et al, 2019).

The use of Metric 2.0 (as opposed to the Statutory Biodiversity Metric Calculation Tool) is due to the timing of the outline planning application for this site, which was submitted in 2019, prior to the implementation of Statutory BNG legislation. Thus, the development is not required to comply with the Statutory Biodiversity Net Gain requirement and is submitting Biodiversity Gain proposals on a voluntary basis.

The final results of the biodiversity calculations are detailed in the below table.

Table 20: Final results of biodiversity calculations

Final Results						
Total Net Unit Change (including all on-site & off-site habitat retention, creation & enhancement)		Habitat Units		8.30		
		Hedgerow Units		5.44		
		Watercourse Units		0.00		
Total Net % Change (including all on-site & off-site habitat retention, creation & enhancement)		Habitat Units		16.81%		
		Hedgerow Units		52.62%		
		Watercourse Units		0.00%		
Trading Rules Satisfied*				Yes		
*you must state if irreplaceable habitats are on-site at baseline: No irreplaceable habitats were identified on-site at baseline						
Unit Type	Target	Baseline Unit	Units Required	Unit Deficit		
Habitat units	10.00%	49.41	54.35	0.00		
Hedgerow units	10.00%	10.41	17.37	0.00		

Watercourse units	10.00%	0.00	0.00	0.00
** Due to the outline planning application having been submitted and approved prior to the implementation of the Statutory Biodiversity Net Gain requirement, a voluntary 10% Net Gain target has been established for this development.				
Discussion				
The calculations used within the metric to quantify biodiversity units differ between habitat, hedgerow and watercourse features, consequently, the values generated are not comparable, and a net gain in one feature cannot compensate for a net loss within another feature.				
Due to the fact that the only available drawings of the 2019 AECOM baseline (as provided in the Biodiversity Scheme – see footnote 3 above) were of limited spatial resolution, a detailed assessment of the location and extents of retained habitats was not possible. The estimates regarding habitat retention made in the Metric 2.0 calculation tool are based on an assessment of the current proposals, cross-referenced with Middlemarch's 2024 baseline survey and an approximate comparison with the full-site drawings in the Biodiversity Scheme.				
While it is possible that the outcome of the BNG calculations might have been altered if a more detailed assessment of retained habitats had been achievable, it is considered unlikely that this would have had a significant effect on the Total Net % Change score.				
How is the target net gain percentage being delivered?	Habitat units	Only on-site.		
	Hedgerow units	Only on-site.		
	Watercourse units	Only on-site.		
How many Biodiversity Units are needed off-site to meet the required net gain percentage?	Habitat units	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		

11.6. NOISE

The Environmental Noise Assessment (Ref: M4874) prepared by Ian Sharland Limited, dated June 2025, evaluates the noise implications associated with the proposed development.

The objective of the Environmental Noise Assessment is to demonstrate that the proposed site is suitable for residential development and how, in principle, and acceptable level of acoustic amenity may be provided.

The existing ambient noise climate affecting the site has been established through a noise survey which was undertaken from the 6th to the 9th of May 2025.

Means of attenuating the external noise levels have been submitted within the Environmental Noise Assessment. This includes a single specification of the façade glazing. A standard 4/16/4 configuration (27 dB Rw + Ctr) will suffice throughout the site.

In respect of external amenity spaces, noise levels within all but one area will be within the relevant guidelines. For those limited areas above the guidelines, the balconies on the west elevation of Block C (if any), the overall significance has been discussed (ref Para 5.12 - 5.14 of the Environmental Noise Assessment).

Consideration has been given to the acoustic impact of an open window strategy to address ventilation issues. It has been shown that the predicted external noise levels exceed the limits set out in ADO Overheating for about 8% of the dwellings.

In summary the plots that exceed the ADO criteria for an open window strategy are:

- 13, 25, 26, 35, 237, 244, 245, 247, 264, 265, 266, and
- The north, south and west elevations of Block C.

It is therefore recommended that all properties where predicted noise levels exceed the limits in ADO include a MVHR system (or equivalent, mechanical solution), designed to counter any overheating issues.

Overall, it is concluded that, with the recommended measures in place, occupants of new properties can be provided with an acceptable acoustic environment, using very practicable methods of construction.

11.7. 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. These measures can include:

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 15th 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. The TM59 recommended DSY1 weather file was used for the main overheating analysis.

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

- All living rooms, kitchens areas must have ΔT 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.

As previously detailed, the Environmental Noise Assessment, prepared by Ian Sharland Limited (dated October 2025), has identified a number of plots which exceed the acoustic requirements with an open window strategy. Therefore, an alternative means of ventilation will be investigated for the affected plots. An Initial Overheating Assessment has been carried out, and takes into account these window opening restrictions.

11.7.1. INITIAL OVERHEATING ASSESSMENT

In support of this planning application, an initial Overheating Assessment (Ref: PO-HLL-BH-25-01) has been carried out by Abbey Consultants (Southern) Ltd., dated July 2025. This is to demonstrate how the development will be mitigated against the risk of overheating.

Dynamic thermal modelling has been carried out to all house types in accordance with the CIBSE TM59 methodology. The assessment has shown that all houses are achieving a pass based on the specification detailed in the below table.

Table 21: Overheating Specification Summary

Element	Criteria
Acoustic Restrictions	None
Window Specification	Whole Window U-Value = 1.20 Whole Window G-Value = 0.33 BFRC Certificate
Patio/Bi-Fold Door Specification	Whole Window U-Value = 1.20 Whole Window G-Value = 0.33 BFRC Certificate
Window Opening Restrictions	The ground floor bedrooms are assessed with their windows closed during nighttime hours within the TM59 model. The following plots/locations have window opening restrictions due to acoustic issues: <ul style="list-style-type: none"> • 13, 25, 26, 35, 237, 244, 245, 247, 264, 265, 266, and • The north, south and west elevations of Block C.
Mechanical Ventilation	Houses & Extra Care Apartments = System 3 dMEV Apartments (within Blocks A, B & C) = System 4 MVHR (via Nilan Compact P Units) Air changes per hour = Part F/O Compliant
Mechanical Purge Ventilation	The following ground floor bedrooms to the extra care building require mechanical purge ventilation as a result of the window opening restrictions detailed above. The mechanical purge fans will be required to achieve a design flow rate of 40l/s.
Mechanical Cooling	Residential apartments (excluding the extra care building) are to be serviced by Nilan Compact P units which have a mechanical cooling function.
Weather File	Suburban weather file: London Gatwick DSY1
Design Air Permeability	4.00
Internal Blinds	None

Guarding	Part O/K Compliant – 1100mm guarding required
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As can be seen from the above table, there are a number of ground floor bedrooms within the extra care building which will require additional mechanical purge ventilation. This is due to the window opening restrictions described in the table above. All remaining apartments will achieve compliance as they have been specified with the Nilan Compact P units which have a mechanical cooling function.

11.8. DRAINAGE STRATEGY

In support of this planning application, a Drainage Technical Note (Ref: 7714) has been undertaken by Walker Associates Consulting Limited, dated May 2025.

The drainage principles set out in the Technical Note have been designed in line with the approved Regional Surface Water Masterplan produced by AECOM in February 2021 (Ref: 60610807-ACM-XX-XX-RP-DR-10002). The parcels relevant to this report are covered by Drainage Area 9 (Catchment boundaries 9.3, 9.4 and 9.5) in section 12 of the AECOM report. The regional Sustainable Drainage System (SuDS) layouts for these Drainage Areas are presented in the AECOM Regional SuDS Layout Ref 60610807-ACM-09-XX -DR-DR-200094 – 98.

The Drainage Technical Note sets out the proposals to manage foul and surface water drainage as part of the proposed development.

Based on the findings of the Drainage Technical Note, it can be concluded that:

- The Drainage Strategy for the site is in line with the approved outline strategy developed by AECOM.
- Treatment is provided via the use of detention basins and swales and permeable paving providing suitable mitigation for the type of development proposed in line with the CIRIA simple index approach.
- Exceedance routes will be contained within the site road network and open spaces with the eventual outfall for any overflow being the local watercourse network.
- SuDS features will be maintained by WSCC Highways, an appointed maintenance company or MSDC.
- Foul effluent will discharge into the wider development sewer network. An adoptable pumping station will serve the whole of Phase 1C.

11.9. LANDSCAPING

A Landscape Management Plan has been prepared by FPCR Environment and Design Ltd, dated June 2025, in support of this reserved matters application.

The landscape design strategy has been prepared in the context of a thorough and detailed understanding of the site landscape and its context and within the framework of relevant policy and design guidance. The landscape design embraces broader Green Infrastructure (GI) and sustainable development principles and seeks to maximise these multifunctional benefits wherever practicable. Green and blue infrastructure has been devised to integrate the urban area with the landscape and ecology elements and connect the Site to the wider landscape.

The vision for the landscape strategy is to increase the biodiversity and recreational value of the site over the long-term whilst creating a high quality living environment and assimilating the proposals within its landscape context.

The Landscape Management Plan describes the following key aims and objectives:

- Aim 1: Maintain and enhance the biodiversity value of the site.
 - Objective 1: Protect and maintain retained habitats and protected species within the site;
 - Objective 2: Create a matrix of complimentary new habitats and assimilate the Sustainable Drainage System (SuDS) for the development into the GI.
- Aim 2: Balance development recreation with wildlife.
 - Objective 3: Provide a safe and inspiring recreational and leisure resource.
- Aim 3: Manage the site for biodiversity recreational value in the long-term
 - Objective 4: Ensure the matrix of new and existing habitats establish and are suitably maintained to ensure long-term biodiversity gain.
- Aim 4: Monitor the site and review the Plan
 - Objective 5: Provide a framework of monitoring and review periods.

Details of how the above aims and objectives will be achieved, are detailed within the Landscape Management Plan.

Figure 5: Green Infrastructure Strategy



12. APPENDICES

The following pages detail:

- Appendix A: Alternative Renewable Energy Options
- Appendix B: Vaillant aroTHERM Plus Technical Datasheet
- Appendix C: Nilan Compact P Technical Datasheet
- Appendix D: BRUKL Output Sheets (Be Lean)
- Appendix E: BRUKL Output Sheets (Be Green)
- Appendix F: Sample SAP Summary Information Sheets (Be Lean)
- Appendix G: 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.

Unsuitable for blocks of flats and low carbon reduction efficiency compared to photovoltaic systems. Solar hot water systems for flatted blocks are only suitable where a central boiler plant room is provided to accommodate a central thermal store.

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 CO₂ 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
General						
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 ²		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 ³ /h	2,300		5,100		
Heating pump, power consumption	W	2 - 50		3 - 87		
Heating circuit						
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
Refrigerant circuit						
Fluid type			R290			
Fluid fill quantity	kg	0.6	0.9	1.3		
Refrigerant, Global Warming Potential (GWP)			3			
CO ₂ 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: NILAN COMPACT P TECHNICAL DATASHEET

Figure 7: Nilan Compact P Technical Datasheet

TECHNICAL DATA

Compact P

Dimensions (W x D x H)	900 x 610 x 2065 mm
Weight	202 kg
Plate type casing	Aluzinc steel plate, white powder coating RAL 9016
Heat exchanger type	Polyethyleneterephthalat counterflow heat exchanger
Fan type	EC, constant rotation
Filter class	ISO Coarse >90% (G4)
Duct connections	Ø 160 mm
Condensate drain	PVC, Ø 20 x 1,5 mm
Refrigerant	R134a
Refrigerant filling	2 kg
Capacity SHW tank	180 L
Supplementary electrical heating (sanitary hot water)	1,5 kW
Connection dimension	3/4"

Supply voltage	230 V (+10 %), 50/60 Hz
Max. input/power (*1)	2,2 kW/9,6 A
Max. input/power (*2)	3,4 kW/14,8 A
Tightness class	IP31
Standby power	3 W
Ambient temperature	-20/+40 °C
Power consumption build-in preheating element (Polar)	1,2 kW
External leakage (*3)	< 1,4%
Internal leakage (*4)	< 1,1%

*1 Input without heating element (accessory).

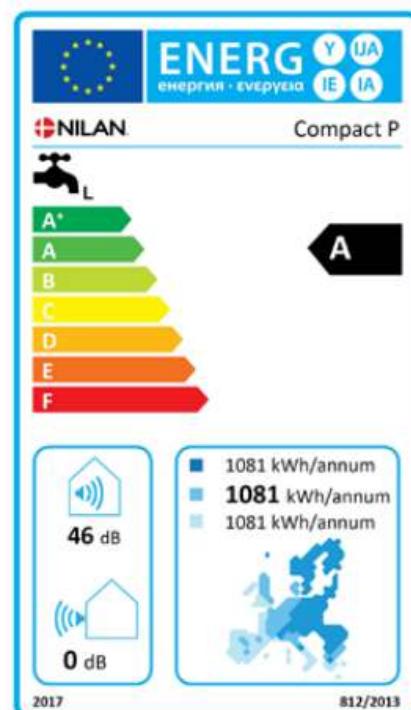
*2 Input Compact Polar

*3 At ± 250 Pa and 265 m³/h according EN 308/EN 13141-7.

*4 At ± 100 Pa and 265 m³/h according EN 308/EN 13141-7.

Hot water production

Consumer profile, water heater	L (large)
Energy efficiency class	A
Energy efficiency for water heating - average climate	94 %
Annual electricity consumption - average climate	1081 kWh/annum
Temperature settings on the thermostat	10 - 65 °C
Sound power level L _{WA}	46 dB(A)
The water heater can function outside peak load periods (Smart-grid)	No
Guidelines for assembly, installation and maintenance	See installation instructions
Energy efficiency for water heating - cold climate	94%
Energy efficiency for water heating - warm climate	94%
Annual electricity production - cold climate	1081 kWh/annum
Annual electricity consumption - warm climate	1081 kWh/annum



12.4. APPENDIX D: BRUKL OUTPUT SHEETS (BE LEAN)



Project name

Burges Hill Extra Care Be Lean

As designed

Date: Thu Jul 17 15:08:05 2025

Administrative information

Building Details

Address: Brook Road, Braintree, Essex,

Certifier details

Name: Matt Fitzpatrick

Telephone number: 01923 274427

Address: 2 Dronken House 43A High Street, Kings Langley, WD4 8FG

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: DesignBuilder SBEM

Interface to calculation engine version: v7.3.1

BRUKL compliance module version: v6.1.e.1

Foundation area [m²]: 1200.82

The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² :annum	5.75
Building CO ₂ emission rate (BER), kgCO ₂ /m ² :annum	5.48
Target primary energy rate (TPER), kWh _{PE} /m ² :annum	61.15
Building primary energy rate (BPER), kWh _{PE} /m ² :annum	58.13
Do the building's emission and primary energy rates exceed the targets?	BER <= TER BPER <= TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _a -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	Extra Care 0F - Stair Core 1_W_6
Floors	0.18	0.12	0.12	Extra Care 0F - Corridor 3_S_3
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	0.11	0.11	Extra Care 3F - Corridor 3_R_4
Windows** and roof windows	1.6	1.2	1.2	Extra Care 0F - Stair Core 1_G_7
Rooflights***	2.2	-	-	No external rooflights
Personnel doors [^]	1.6	1.2	1.2	Extra Care 0F - Stair Core 2_D_11
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]

U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]

U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	4

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	0.9 to 0.95

1- ASHP - Be Lean

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	2.65	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.

1- Project DHW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

Zone-level mechanical ventilation, exhaust, and terminal units

ID	System type in the Approved Documents
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter

NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

Zone name	SFP [W/(l/s)]									HR efficiency	
	ID of system type	A	B	C	D	E	F	G	H		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard
Extra Care 0F - WC	0.3	-	-	-	-	-	-	-	-	-	N/A
Extra Care 0F - Kitchen	0.3	-	-	-	-	-	-	-	-	-	N/A

General lighting and display lighting		General luminaire	Display light source	
Zone name	Standard value	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Extra Care 0F - Corridor 3	120	-	-	-
Extra Care 0F - Corridor	120	-	-	-
Extra Care 0F - Lift Core	120	-	-	-
Extra Care 0F - Stair Core 1	120	-	-	-
Extra Care 0F - Corridor 2	120	-	-	-
Extra Care 0F - Hobby Room	120	-	-	-
Extra Care 0F - Staff Room	120	-	-	-
Extra Care 0F - Interview Room	120	-	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Standard value	95	80	0.3
Extra Care 0F - Store 2	120	-	-
Extra Care 0F - Laundry	120	-	-
Extra Care 0F - Care Office	120	-	-
Extra Care 0F - WC	120	-	-
Extra Care 0F - Store	120	-	-
Extra Care 0F - Stair Core 2	120	-	-
Extra Care 0F - Lobby	120	-	-
Extra Care 0F - Lounge	120	-	-
Extra Care 0F - Housing Office	120	-	-
Extra Care 0F - Lift Core 2	120	-	-
Extra Care 0F - Dining Room	120	-	-
Extra Care 0F - Hair Salon	120	-	-
Extra Care 0F - Lobby 2	120	-	-
Extra Care 0F - Kitchen	120	-	-
Extra Care 0F - Cleaners Store	120	-	-
Extra Care 0F - Buggy Store	120	-	-
Extra Care 1F - Corridor 3	120	-	-
Extra Care 1F - Lobby 2	120	-	-
Extra Care 1F - Stair Core 1	120	-	-
Extra Care 1F - Lift Core 2	120	-	-
Extra Care 1F - Riser 2	120	-	-
Extra Care 1F - Corridor	120	-	-
Extra Care 1F - Stair Core 2	120	-	-
Extra Care 1F - Lobby 1	120	-	-
Extra Care 1F - Assisted Bath	120	-	-
Extra Care 1F - Guest Suite	120	-	-
Extra Care 1F - Riser	120	-	-
Extra Care 1F - Lift Core 1	120	-	-
Extra Care 1F - Corridor 2	120	-	-
Extra Care 2F - Corridor 3	120	-	-
Extra Care 2F - Stair Core 1	120	-	-
Extra Care 2F - Lobby 1	120	-	-
Extra Care 2F - Corridor 2	120	-	-
Extra Care 3F - Corridor 3	120	-	-
Extra Care 3F - Lobby 2	120	-	-
Extra Care 3F - Stair Core 1	120	-	-
Extra Care 3F - Lift Core 2	120	-	-
Extra Care 3F - Riser 2	120	-	-
Extra Care 3F - Corridor	120	-	-
Extra Care 3F - Stair Core 2	120	-	-
Extra Care 3F - Lobby 1	120	-	-
Extra Care 3F - Riser	120	-	-
Extra Care 3F - Lift Core 1	120	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Standard value	95	80	0.3
Extra Care 3F - Corridor 2	120	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Extra Care 0F - Hobby Room	NO (-25.8%)	NO
Extra Care 0F - Staff Room	NO (-40.3%)	NO
Extra Care 0F - Interview Room	N/A	N/A
Extra Care 0F - Care Office	NO (-47.7%)	NO
Extra Care 0F - Lounge	NO (-38.9%)	NO
Extra Care 0F - Housing Office	NO (-61%)	NO
Extra Care 0F - Dining Room	NO (-60.2%)	NO
Extra Care 0F - Hair Salon	NO (-44.7%)	NO
Extra Care 1F - Guest Suite	NO (-56.1%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters		Building Use	
	Actual	Notional	% Area
Floor area [m ²]	1192.7	1192.7	Retail/Financial and Professional Services
External area [m ²]	1339.6	1339.6	Restaurants and Cafes/Drinking Establishments/Takeaways
Weather	LON	LON	Offices and Workshop Businesses
Infiltration [m ³ /hm ² @ 50Pa]	4	3	General Industrial and Special Industrial Groups
Average conductance [W/K]	315.91	391.49	Storage or Distribution
Average U-value [W/m ² K]	0.24	0.29	Hotels
Alpha value* [%]	24.26	18.75	100 Residential Institutions: Hospitals and Care Homes

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Retail/Financial and Professional Services
 Restaurants and Cafes/Drinking Establishments/Takeaways
 Offices and Workshop Businesses
 General Industrial and Special Industrial Groups
 Storage or Distribution
 Hotels
100 Residential Institutions: Hospitals and Care Homes
 Residential Institutions: Residential Schools
 Residential Institutions: Universities and Colleges
 Secure Residential Institutions
 Residential Spaces
 Non-residential Institutions: Community/Day Centre
 Non-residential Institutions: Libraries, Museums, and Galleries
 Non-residential Institutions: Education
 Non-residential Institutions: Primary Health Care Building
 Non-residential Institutions: Crown and County Courts
 General Assembly and Leisure, Night Clubs, and Theatres
 Others: Passenger Terminals
 Others: Emergency Services
 Others: Miscellaneous 24hr Activities
 Others: Car Parks 24 hrs
 Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	13.26	13.54
Cooling	0	0
Auxiliary	4.78	3.32
Lighting	14.59	16.59
Hot water	5.62	7.46
Equipment*	54.46	54.46
TOTAL**	38.25	40.91

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>0</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	319.57	370.63
Primary energy [kWh _{PE} /m ²]	58.13	61.15
Total emissions [kg/m ²]	5.48	5.75

HVAC Systems Performance

System Type	Heat dem MJ/m ²	Cool dem MJ/m ²	Heat con kWh/m ²	Cool con kWh/m ²	Aux con kWh/m ²	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Central heating using water: radiators, [HS] ASHP, [HFT] Electricity, [CFT] Natural Gas									
Actual	112.9	206.7	13.3	0	4.8	2.37	0	2.65	0
Notional	128.6	242	13.5	0	2.5	2.64	0	---	---

Key to terms

Heat dem [MJ/m ²]	= Heating energy demand
Cool dem [MJ/m ²]	= Cooling energy demand
Heat con [kWh/m ²]	= Heating energy consumption
Cool con [kWh/m ²]	= Cooling energy consumption
Aux con [kWh/m ²]	= Auxiliary energy consumption
Heat SSEEF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type



Project name

Burges Hill Community Be Lean

As designed

Date: Thu Jul 17 10:34:06 2025

Administrative information

Building Details

Address: Brook Road, Braintree, Essex,

Certifier details

Name: Matt Fitzpatrick

Telephone number: 01923 274427

Address: 2 Dronken House 43A High Street, Kings Langley, WD4 8FG

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: DesignBuilder SBEM

Interface to calculation engine version: v7.3.1

BRUKL compliance module version: v6.1.e.1

Foundation area [m²]: 972.48

The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² :annum	4.77
Building CO ₂ emission rate (BER), kgCO ₂ /m ² :annum	4.37
Target primary energy rate (TPER), kWh _{PE} /m ² :annum	51.39
Building primary energy rate (BPER), kWh _{PE} /m ² :annum	47.76
Do the building's emission and primary energy rates exceed the targets?	BER <= TER BPER <= TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _a -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	Community Hall 0F - Entrance_W_7
Floors	0.18	0.12	0.12	Community Hall 0F - Entrance_S_3
Pitched roofs	0.16	0.11	0.11	Community Hall 0F - Entrance_R_14
Flat roofs	0.18	0.11	0.11	Community Hall 0F - Entrance_R_5
Windows** and roof windows	1.6	1.2	1.2	Community Hall 0F - Entrance_G_8
Rooflights***	2.2	-	-	No external rooflights
Personnel doors [^]	1.6	1.2	1.2	Community Hall 0F - Corridor_D_9
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]

U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]

U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	4

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	0.9 to 0.95

1- VRF-Be Lean

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	2.65	5	-	1.1	0.85
Standard value	2.5*	5	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					
^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.					

1- Project DHW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

"No zones in project where local mechanical ventilation, exhaust, or terminal unit is applicable"

General lighting and display lighting	General luminaire	Display light source	
	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Zone name			
Standard value	95	80	0.3
Community Hall 0F - Entrance	120	-	-
Community Hall 0F - Activity Hall 1	120	-	-
Community Hall 0F - Nursery	120	-	-
Community Hall 0F - Admin Office	120	-	-
Community Hall 0F - Corridor	120	-	-
Community Hall 0F - Nursery WC	120	-	-
Community Hall 0F - Lift Core	120	-	-
Community Hall 0F - Storage	120	-	-
Community Hall 0F - Office	120	-	-
Community Hall 0F - Female WCs	120	-	-
Community Hall 0F - Lobby	120	-	-
Community Hall 0F - Male WCs	120	-	-
Community Hall 0F - Cafe	120	-	-
Community Hall 0F - Kitchenette	120	-	-
Community Hall 0F - Changing Places	120	-	-
Community Hall 0F - Store	120	-	-
Community Hall 1F - Void	120	-	-
Community Hall 1F - Corridor	120	-	-
Community Hall 1F - Lift Core	120	-	-
Community Hall 1F - Interview Room	120	-	-
Community Hall 1F - Caretakers Closet	120	-	-
Community Hall 1F - Storage	120	-	-
Community Hall 1F - Activity Hall 3	120	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Standard value	95	80	0.3
Community Hall 1F - Activity Hall 2	120	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Community Hall 0F - Entrance	NO (-5.6%)	NO
Community Hall 0F - Activity Hall 1	NO (-35.3%)	NO
Community Hall 0F - Nursery	NO (-39.4%)	NO
Community Hall 0F - Admin Office	NO (-79.5%)	NO
Community Hall 0F - Corridor	N/A	N/A
Community Hall 0F - Nursery WC	N/A	N/A
Community Hall 0F - Lift Core	N/A	N/A
Community Hall 0F - Storage	N/A	N/A
Community Hall 0F - Office	NO (-57.3%)	NO
Community Hall 0F - Female WCs	N/A	N/A
Community Hall 0F - Lobby	N/A	N/A
Community Hall 0F - Male WCs	N/A	N/A
Community Hall 0F - Cafe	NO (-17.3%)	NO
Community Hall 0F - Kitchenette	N/A	N/A
Community Hall 0F - Changing Places	N/A	N/A
Community Hall 0F - Store	N/A	N/A
Community Hall 1F - Void	N/A	N/A
Community Hall 1F - Corridor	N/A	N/A
Community Hall 1F - Lift Core	N/A	N/A
Community Hall 1F - Interview Room	N/A	N/A
Community Hall 1F - Caretakers Closet	N/A	N/A
Community Hall 1F - Storage	N/A	N/A
Community Hall 1F - Activity Hall 3	NO (-88.1%)	NO
Community Hall 1F - Activity Hall 2	NO (-32.2%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters		Building Use		
	Actual	Notional	% Area	Building Type
Floor area [m ²]	972.5	972.5		Retail/Financial and Professional Services
External area [m ²]	2128.3	2128.3		Restaurants and Cafes/Drinking Establishments/Takeaways
Weather	LON	LON		Offices and Workshop Businesses
Infiltration [m ³ /hm ² @ 50Pa]	4	3		General Industrial and Special Industrial Groups
Average conductance [W/K]	419.99	669.34		Storage or Distribution
Average U-value [W/m ² K]	0.2	0.31		Hotels
Alpha value* [%]	7	19.5		Residential Institutions: Hospitals and Care Homes

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

100	Non-residential Institutions: Community/Day Centre
	Non-residential Institutions: Libraries, Museums, and Galleries
	Non-residential Institutions: Education
	Non-residential Institutions: Primary Health Care Building
	Non-residential Institutions: Crown and County Courts
	General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger Terminals
	Others: Emergency Services
	Others: Miscellaneous 24hr Activities
	Others: Car Parks 24 hrs
	Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	3.08	7.29
Cooling	4.97	3.17
Auxiliary	5.74	9.83
Lighting	10.49	6.56
Hot water	7.64	7.77
Equipment*	10.81	10.81
TOTAL**	31.92	34.62

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>0</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	87.92	119.43
Primary energy [kWh _{PE} /m ²]	47.76	51.39
Total emissions [kg/m ²]	4.37	4.77

HVAC Systems Performance

System Type	Heat dem MJ/m ²	Cool dem MJ/m ²	Heat con kWh/m ²	Cool con kWh/m ²	Aux con kWh/m ²	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Variable refrigerant flow, [HS] ASHP, [HFT] Electricity, [CFT] Electricity									
Actual	28.1	59.9	3.1	5	5.7	2.53	3.35	2.65	5
Notional	69.2	50.2	7.3	3.2	8.9	2.64	4.4	----	----

Key to terms

Heat dem [MJ/m ²]	= Heating energy demand
Cool dem [MJ/m ²]	= Cooling energy demand
Heat con [kWh/m ²]	= Heating energy consumption
Cool con [kWh/m ²]	= Cooling energy consumption
Aux con [kWh/m ²]	= Auxiliary energy consumption
Heat SSEEF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type



Project name

Burges Hill Retail Be Lean

As designed

Date: Thu Jul 17 10:34:55 2025

Administrative information

Building Details

Address: Brook Road, Braintree, Essex,

Certifier details

Name: Matt Fitzpatrick

Telephone number: 01923 274427

Address: 2 Dronken House 43A High Street, Kings Langley, WD4 8FG

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: DesignBuilder SBEM

Interface to calculation engine version: v7.3.1

BRUKL compliance module version: v6.1.e.1

Foundation area [m²]: 1057.65

The CO₂ emission and primary energy rates of the building must not exceed the targets

The building does not comply with England Building Regulations Part L 2021

Target CO ₂ emission rate (TER), kgCO ₂ /m ² :annum	4.9
Building CO ₂ emission rate (BER), kgCO ₂ /m ² :annum	5.03
Target primary energy rate (TPER), kWh _{PE} /m ² :annum	53.1
Building primary energy rate (BPER), kWh _{PE} /m ² :annum	55.96
Do the building's emission and primary energy rates exceed the targets?	BER > TER BPER > TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _a -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	Block A 0F - Retail 1_P_5
Floors	0.18	0.12	0.12	Block A 0F - Retail 1_S_3
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	0.11	0.11	Block B 0F - Retail 3_R_5
Windows** and roof windows	1.6	1.2	1.2	Block A 0F - Retail 1_G_7
Rooflights***	2.2	-	-	No external rooflights
Personnel doors [^]	1.6	-	-	No external personnel doors
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]

U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]

U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	4

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	0.9 to 0.95

1- VRF-Be Lean

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	2.65	5	-	1.1	0.85
Standard value	2.5*	5	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.

^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

1- Project DHW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

"No zones in project where local mechanical ventilation, exhaust, or terminal unit is applicable"

General lighting and display lighting	General luminaire	Display light source	
	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Zone name	95	80	0.3
Standard value	120	120	1.25
Block A 0F - Retail 1	120	120	1.25
Block A 0F - Retail 2	120	120	1.25
Block B 0F - Retail 3	120	120	1.25

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Block A 0F - Retail 1	YES (+8.6%)	NO
Block A 0F - Retail 2	NO (-17.6%)	NO
Block B 0F - Retail 3	NO (-10.2%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters		Building Use		
	Actual	Notional	% Area	Building Type
Floor area [m ²]	1057.7	1057.7	100	Retail/Financial and Professional Services
External area [m ²]	2336.5	2336.5		Restaurants and Cafes/Drinking Establishments/Takeaways
Weather	LON	LON		Offices and Workshop Businesses
Infiltration [m ³ /hm ² @ 50Pa]	4	3		General Industrial and Special Industrial Groups
Average conductance [W/K]	694.82	876.61		Storage or Distribution
Average U-value [W/m ² K]	0.3	0.38		Hotels
Alpha value* [%]	5.84	19.39		Residential Institutions: Hospitals and Care Homes
				Residential Institutions: Residential Schools
				Residential Institutions: Universities and Colleges
				Secure Residential Institutions
				Residential Spaces
				Non-residential Institutions: Community/Day Centre
				Non-residential Institutions: Libraries, Museums, and Galleries
				Non-residential Institutions: Education
				Non-residential Institutions: Primary Health Care Building
				Non-residential Institutions: Crown and County Courts
				General Assembly and Leisure, Night Clubs, and Theatres
				Others: Passenger Terminals
				Others: Emergency Services
				Others: Miscellaneous 24hr Activities
				Others: Car Parks 24 hrs
				Others: Stand Alone Utility Block

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	2.32	6.26
Cooling	15.62	7.12
Auxiliary	5.27	12.3
Lighting	13.86	9.59
Hot water	0.67	0.59
Equipment*	20.26	20.26
TOTAL**	37.75	35.86

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>0</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	209.5	172.36
Primary energy [kWh _{PE} /m ²]	55.96	53.1
Total emissions [kg/m ²]	5.03	4.9

HVAC Systems Performance

System Type	Heat dem MJ/m ²	Cool dem MJ/m ²	Heat con kWh/m ²	Cool con kWh/m ²	Aux con kWh/m ²	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Variable refrigerant flow, [HS] ASHP, [HFT] Electricity, [CFT] Electricity									
Actual	21.2	188.3	2.3	15.6	5.3	2.53	3.35	2.65	5
Notional	59.5	112.8	6.3	7.1	12.3	2.64	4.4	----	----

Key to terms

Heat dem [MJ/m ²]	= Heating energy demand
Cool dem [MJ/m ²]	= Cooling energy demand
Heat con [kWh/m ²]	= Heating energy consumption
Cool con [kWh/m ²]	= Cooling energy consumption
Aux con [kWh/m ²]	= Auxiliary energy consumption
Heat SSEEF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type

12.5. APPENDIX E: BRUKL OUTPUT SHEETS (BE GREEN)



Project name

Burges Hill Extra Care Be Green

As designed

Date: Thu Jul 17 15:06:52 2025

Administrative information

Building Details

Address: Brook Road, Braintree, Essex,

Certifier details

Name: Matt Fitzpatrick

Telephone number: 01923 274427

Address: 2 Dronken House 43A High Street, Kings Langley, WD4 8FG

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: DesignBuilder SBEM

Interface to calculation engine version: v7.3.1

BRUKL compliance module version: v6.1.e.1

Foundation area [m²]: 1200.82

The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² :annum	5.75
Building CO ₂ emission rate (BER), kgCO ₂ /m ² :annum	5.03
Target primary energy rate (TPER), kWh _{PE} /m ² :annum	61.15
Building primary energy rate (BPER), kWh _{PE} /m ² :annum	53.61
Do the building's emission and primary energy rates exceed the targets?	BER <= TER BPER <= TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _a -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	Extra Care 0F - Stair Core 1_W_6
Floors	0.18	0.12	0.12	Extra Care 0F - Corridor 3_S_3
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	0.11	0.11	Extra Care 3F - Corridor 3_R_4
Windows** and roof windows	1.6	1.2	1.2	Extra Care 0F - Stair Core 1_G_7
Rooflights***	2.2	-	-	No external rooflights
Personnel doors [^]	1.6	1.2	1.2	Extra Care 0F - Stair Core 2_D_11
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]

U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]

U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	4

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	0.9 to 0.95

1- ASHP

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	3.39	-	-	-	-
Standard value	2.5*	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.

1- Project DHW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

Zone-level mechanical ventilation, exhaust, and terminal units

ID	System type in the Approved Documents
A	Local supply or extract ventilation units
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal balanced supply and extract ventilation system
E	Local balanced supply and extract ventilation units
F	Other local ventilation units
G	Fan assisted terminal variable air volume units
H	Fan coil units
I	Kitchen extract with the fan remote from the zone and a grease filter

NB: Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

Zone name	SFP [W/(l/s)]									HR efficiency	
	ID of system type	A	B	C	D	E	F	G	H		
Standard value	0.3	1.1	0.5	2.3	2	0.5	0.5	0.4	1	Zone	Standard
Extra Care 0F - WC	0.3	-	-	-	-	-	-	-	-	-	N/A
Extra Care 0F - Kitchen	0.3	-	-	-	-	-	-	-	-	-	N/A

Zone name	General lighting and display lighting		General luminaire	Display light source	
	Standard value	Efficacy [lm/W]		Efficacy [lm/W]	Power density [W/m ²]
Extra Care 0F - Corridor 3	120	95	-	80	0.3
Extra Care 0F - Corridor	120	-	-	-	-
Extra Care 0F - Lift Core	120	-	-	-	-
Extra Care 0F - Stair Core 1	120	-	-	-	-
Extra Care 0F - Corridor 2	120	-	-	-	-
Extra Care 0F - Hobby Room	120	-	-	-	-
Extra Care 0F - Staff Room	120	-	-	-	-
Extra Care 0F - Interview Room	120	-	-	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Standard value	95	80	0.3
Extra Care 0F - Store 2	120	-	-
Extra Care 0F - Laundry	120	-	-
Extra Care 0F - Care Office	120	-	-
Extra Care 0F - WC	120	-	-
Extra Care 0F - Store	120	-	-
Extra Care 0F - Stair Core 2	120	-	-
Extra Care 0F - Lobby	120	-	-
Extra Care 0F - Lounge	120	-	-
Extra Care 0F - Housing Office	120	-	-
Extra Care 0F - Lift Core 2	120	-	-
Extra Care 0F - Dining Room	120	-	-
Extra Care 0F - Hair Salon	120	-	-
Extra Care 0F - Lobby 2	120	-	-
Extra Care 0F - Kitchen	120	-	-
Extra Care 0F - Cleaners Store	120	-	-
Extra Care 0F - Buggy Store	120	-	-
Extra Care 1F - Corridor 3	120	-	-
Extra Care 1F - Lobby 2	120	-	-
Extra Care 1F - Stair Core 1	120	-	-
Extra Care 1F - Lift Core 2	120	-	-
Extra Care 1F - Riser 2	120	-	-
Extra Care 1F - Corridor	120	-	-
Extra Care 1F - Stair Core 2	120	-	-
Extra Care 1F - Lobby 1	120	-	-
Extra Care 1F - Assisted Bath	120	-	-
Extra Care 1F - Guest Suite	120	-	-
Extra Care 1F - Riser	120	-	-
Extra Care 1F - Lift Core 1	120	-	-
Extra Care 1F - Corridor 2	120	-	-
Extra Care 2F - Corridor 3	120	-	-
Extra Care 2F - Stair Core 1	120	-	-
Extra Care 2F - Lobby 1	120	-	-
Extra Care 2F - Corridor 2	120	-	-
Extra Care 3F - Corridor 3	120	-	-
Extra Care 3F - Lobby 2	120	-	-
Extra Care 3F - Stair Core 1	120	-	-
Extra Care 3F - Lift Core 2	120	-	-
Extra Care 3F - Riser 2	120	-	-
Extra Care 3F - Corridor	120	-	-
Extra Care 3F - Stair Core 2	120	-	-
Extra Care 3F - Lobby 1	120	-	-
Extra Care 3F - Riser	120	-	-
Extra Care 3F - Lift Core 1	120	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Standard value	95	80	0.3
Extra Care 3F - Corridor 2	120	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Extra Care 0F - Hobby Room	NO (-25.8%)	NO
Extra Care 0F - Staff Room	NO (-40.3%)	NO
Extra Care 0F - Interview Room	N/A	N/A
Extra Care 0F - Care Office	NO (-47.7%)	NO
Extra Care 0F - Lounge	NO (-38.9%)	NO
Extra Care 0F - Housing Office	NO (-61%)	NO
Extra Care 0F - Dining Room	NO (-60.2%)	NO
Extra Care 0F - Hair Salon	NO (-44.7%)	NO
Extra Care 1F - Guest Suite	NO (-56.1%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters		Building Use	
	Actual	Notional	% Area
Floor area [m ²]	1192.7	1192.7	Retail/Financial and Professional Services
External area [m ²]	1339.6	1339.6	Restaurants and Cafes/Drinking Establishments/Takeaways
Weather	LON	LON	Offices and Workshop Businesses
Infiltration [m ³ /hm ² @ 50Pa]	4	3	General Industrial and Special Industrial Groups
Average conductance [W/K]	315.91	391.49	Storage or Distribution
Average U-value [W/m ² K]	0.24	0.29	Hotels
Alpha value* [%]	24.26	18.75	100 Residential Institutions: Hospitals and Care Homes

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Retail/Financial and Professional Services
 Restaurants and Cafes/Drinking Establishments/Takeaways
 Offices and Workshop Businesses
 General Industrial and Special Industrial Groups
 Storage or Distribution
 Hotels
100 Residential Institutions: Hospitals and Care Homes
 Residential Institutions: Residential Schools
 Residential Institutions: Universities and Colleges
 Secure Residential Institutions
 Residential Spaces
 Non-residential Institutions: Community/Day Centre
 Non-residential Institutions: Libraries, Museums, and Galleries
 Non-residential Institutions: Education
 Non-residential Institutions: Primary Health Care Building
 Non-residential Institutions: Crown and County Courts
 General Assembly and Leisure, Night Clubs, and Theatres
 Others: Passenger Terminals
 Others: Emergency Services
 Others: Miscellaneous 24hr Activities
 Others: Car Parks 24 hrs
 Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	10.37	13.54
Cooling	0	0
Auxiliary	4.78	3.32
Lighting	14.59	16.59
Hot water	5.62	7.46
Equipment*	54.46	54.46
TOTAL**	35.36	40.91

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>0</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	319.57	370.63
Primary energy [kWh _{PE} /m ²]	53.61	61.15
Total emissions [kg/m ²]	5.03	5.75

HVAC Systems Performance

System Type	Heat dem MJ/m ²	Cool dem MJ/m ²	Heat con kWh/m ²	Cool con kWh/m ²	Aux con kWh/m ²	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Central heating using water: radiators, [HS] ASHP, [HFT] Electricity, [CFT] Natural Gas									
Actual	112.9	206.7	10.4	0	4.8	3.03	0	3.39	0
Notional	128.6	242	13.5	0	2.5	2.64	0	---	---

Key to terms

Heat dem [MJ/m ²]	= Heating energy demand
Cool dem [MJ/m ²]	= Cooling energy demand
Heat con [kWh/m ²]	= Heating energy consumption
Cool con [kWh/m ²]	= Cooling energy consumption
Aux con [kWh/m ²]	= Auxiliary energy consumption
Heat SSEEF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type



Project name

Burges Hill Community Be Green

As designed

Date: Thu Jul 17 10:31:57 2025

Administrative information

Building Details

Address: Brook Road, Braintree, Essex,

Certifier details

Name: Matt Fitzpatrick

Telephone number: 01923 274427

Address: 2 Dronken House 43A High Street, Kings Langley, WD4 8FG

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: DesignBuilder SBEM

Interface to calculation engine version: v7.3.1

BRUKL compliance module version: v6.1.e.1

Foundation area [m²]: 972.48

The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² :annum	4.77
Building CO ₂ emission rate (BER), kgCO ₂ /m ² :annum	3.29
Target primary energy rate (TPER), kWh _{PE} /m ² :annum	51.39
Building primary energy rate (BPER), kWh _{PE} /m ² :annum	35.92
Do the building's emission and primary energy rates exceed the targets?	BER <= TER BPER <= TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _a -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	Community Hall 0F - Entrance_W_7
Floors	0.18	0.12	0.12	Community Hall 0F - Entrance_S_3
Pitched roofs	0.16	0.11	0.11	Community Hall 0F - Entrance_R_14
Flat roofs	0.18	0.11	0.11	Community Hall 0F - Entrance_R_5
Windows** and roof windows	1.6	1.2	1.2	Community Hall 0F - Entrance_G_8
Rooflights***	2.2	-	-	No external rooflights
Personnel doors [^]	1.6	1.2	1.2	Community Hall 0F - Corridor_D_9
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]

U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]

U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	4

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	0.9 to 0.95

1- VRF

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	5.84	8.53	-	1.1	0.85
Standard value	2.5*	5	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.					
^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.					

1- Project DHW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

"No zones in project where local mechanical ventilation, exhaust, or terminal unit is applicable"

General lighting and display lighting	General luminaire	Display light source	
	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Zone name			
Standard value	95	80	0.3
Community Hall 0F - Entrance	120	-	-
Community Hall 0F - Activity Hall 1	120	-	-
Community Hall 0F - Nursery	120	-	-
Community Hall 0F - Admin Office	120	-	-
Community Hall 0F - Corridor	120	-	-
Community Hall 0F - Nursery WC	120	-	-
Community Hall 0F - Lift Core	120	-	-
Community Hall 0F - Storage	120	-	-
Community Hall 0F - Office	120	-	-
Community Hall 0F - Female WCs	120	-	-
Community Hall 0F - Lobby	120	-	-
Community Hall 0F - Male WCs	120	-	-
Community Hall 0F - Cafe	120	-	-
Community Hall 0F - Kitchenette	120	-	-
Community Hall 0F - Changing Places	120	-	-
Community Hall 0F - Store	120	-	-
Community Hall 1F - Void	120	-	-
Community Hall 1F - Corridor	120	-	-
Community Hall 1F - Lift Core	120	-	-
Community Hall 1F - Interview Room	120	-	-
Community Hall 1F - Caretakers Closet	120	-	-
Community Hall 1F - Storage	120	-	-
Community Hall 1F - Activity Hall 3	120	-	-

General lighting and display lighting	General luminaire	Display light source	
Zone name	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Standard value	95	80	0.3
Community Hall 1F - Activity Hall 2	120	-	-

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Community Hall 0F - Entrance	NO (-5.6%)	NO
Community Hall 0F - Activity Hall 1	NO (-35.3%)	NO
Community Hall 0F - Nursery	NO (-39.4%)	NO
Community Hall 0F - Admin Office	NO (-79.5%)	NO
Community Hall 0F - Corridor	N/A	N/A
Community Hall 0F - Nursery WC	N/A	N/A
Community Hall 0F - Lift Core	N/A	N/A
Community Hall 0F - Storage	N/A	N/A
Community Hall 0F - Office	NO (-57.3%)	NO
Community Hall 0F - Female WCs	N/A	N/A
Community Hall 0F - Lobby	N/A	N/A
Community Hall 0F - Male WCs	N/A	N/A
Community Hall 0F - Cafe	NO (-17.3%)	NO
Community Hall 0F - Kitchenette	N/A	N/A
Community Hall 0F - Changing Places	N/A	N/A
Community Hall 0F - Store	N/A	N/A
Community Hall 1F - Void	N/A	N/A
Community Hall 1F - Corridor	N/A	N/A
Community Hall 1F - Lift Core	N/A	N/A
Community Hall 1F - Interview Room	N/A	N/A
Community Hall 1F - Caretakers Closet	N/A	N/A
Community Hall 1F - Storage	N/A	N/A
Community Hall 1F - Activity Hall 3	NO (-88.1%)	NO
Community Hall 1F - Activity Hall 2	NO (-32.2%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters		Building Use	
	Actual	Notional	% Area Building Type
Floor area [m ²]	972.5	972.5	Retail/Financial and Professional Services
External area [m ²]	2128.3	2128.3	Restaurants and Cafes/Drinking Establishments/Takeaways
Weather	LON	LON	Offices and Workshop Businesses
Infiltration [m ³ /hm ² @ 50Pa]	4	3	General Industrial and Special Industrial Groups
Average conductance [W/K]	419.99	669.34	Storage or Distribution
Average U-value [W/m ² K]	0.2	0.31	Hotels
Alpha value* [%]	7	19.5	Residential Institutions: Hospitals and Care Homes
* Percentage of the building's average heat transfer coefficient which is due to thermal bridging			
		100	Non-residential Institutions: Community/Day Centre
			Non-residential Institutions: Libraries, Museums, and Galleries
			Non-residential Institutions: Education
			Non-residential Institutions: Primary Health Care Building
			Non-residential Institutions: Crown and County Courts
			General Assembly and Leisure, Night Clubs, and Theatres
			Others: Passenger Terminals
			Others: Emergency Services
			Others: Miscellaneous 24hr Activities
			Others: Car Parks 24 hrs
			Others: Stand Alone Utility Block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	1.4	7.29
Cooling	2.91	3.17
Auxiliary	5.74	9.83
Lighting	10.49	6.56
Hot water	3.47	7.77
Equipment*	10.81	10.81
TOTAL**	24.01	34.62

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>0</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	87.92	119.43
Primary energy [kWh _{PE} /m ²]	35.92	51.39
Total emissions [kg/m ²]	3.29	4.77

HVAC Systems Performance

System Type	Heat dem MJ/m ²	Cool dem MJ/m ²	Heat con kWh/m ²	Cool con kWh/m ²	Aux con kWh/m ²	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Variable refrigerant flow, [HS] ASHP, [HFT] Electricity, [CFT] Electricity									
Actual	28.1	59.9	1.4	2.9	5.7	5.58	5.71	5.84	8.53
Notional	69.2	50.2	7.3	3.2	8.9	2.64	4.4	----	----

Key to terms

Heat dem [MJ/m ²]	= Heating energy demand
Cool dem [MJ/m ²]	= Cooling energy demand
Heat con [kWh/m ²]	= Heating energy consumption
Cool con [kWh/m ²]	= Cooling energy consumption
Aux con [kWh/m ²]	= Auxiliary energy consumption
Heat SSEEF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type



Project name

Burges Hill Retail Be Green

As designed

Date: Thu Jul 17 10:17:47 2025

Administrative information

Building Details

Address: Brook Road, Braintree, Essex,

Certifier details

Name: Matt Fitzpatrick

Telephone number: 01923 274427

Address: 2 Dronken House 43A High Street, Kings Langley, WD4 8FG

Certification tool

Calculation engine: SBEM

Calculation engine version: v6.1.e.2

Interface to calculation engine: DesignBuilder SBEM

Interface to calculation engine version: v7.3.1

BRUKL compliance module version: v6.1.e.1

Foundation area [m²]: 1057.65

The CO₂ emission and primary energy rates of the building must not exceed the targets

Target CO ₂ emission rate (TER), kgCO ₂ /m ² :annum	4.9
Building CO ₂ emission rate (BER), kgCO ₂ /m ² :annum	3.99
Target primary energy rate (TPER), kWh _{PE} /m ² :annum	53.1
Building primary energy rate (BPER), kWh _{PE} /m ² :annum	44.08
Do the building's emission and primary energy rates exceed the targets?	BER <= TER BPER <= TPER

The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Fabric element	U _a -Limit	U _a -Calc	U _i -Calc	First surface with maximum value
Walls*	0.26	0.18	0.18	Block A 0F - Retail 1_P_5
Floors	0.18	0.12	0.12	Block A 0F - Retail 1_S_3
Pitched roofs	0.16	-	-	No heat loss pitched roofs
Flat roofs	0.18	0.11	0.11	Block B 0F - Retail 3_R_5
Windows** and roof windows	1.6	1.2	1.2	Block A 0F - Retail 1_G_7
Rooflights***	2.2	-	-	No external rooflights
Personnel doors [^]	1.6	-	-	No external personnel doors
Vehicle access & similar large doors	1.3	-	-	No external vehicle access doors
High usage entrance doors	3	-	-	No external high usage entrance doors

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]

U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]

U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]

* Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

** Display windows and similar glazing are excluded from the U-value check. *** Values for rooflights refer to the horizontal position.

^ For fire doors, limiting U-value is 1.8 W/m²K

NB: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air permeability	Limiting standard	This building
m ³ /(h.m ²) at 50 Pa	8	4

Building services

For details on the standard values listed below, system-specific guidance, and additional regulatory requirements, refer to the Approved Documents.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	0.9 to 0.95

1- VRF

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	5.84	8.53	-	1.1	0.85
Standard value	2.5*	5	N/A	2^	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					NO

* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps.

^ Limiting SFP may be increased by the amounts specified in the Approved Documents if the installation includes particular components.

1- Project DHW

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	Hot water provided by HVAC system	-
Standard value	N/A	N/A

"No zones in project where local mechanical ventilation, exhaust, or terminal unit is applicable"

General lighting and display lighting	General luminaire	Display light source	
	Efficacy [lm/W]	Efficacy [lm/W]	Power density [W/m ²]
Zone name	95	80	0.3
Standard value	120	120	1.25
Block A 0F - Retail 1	120	120	1.25
Block A 0F - Retail 2	120	120	1.25
Block B 0F - Retail 3	120	120	1.25

The spaces in the building should have appropriate passive control measures to limit solar gains in summer

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
Block A 0F - Retail 1	YES (+8.6%)	NO
Block A 0F - Retail 2	NO (-17.6%)	NO
Block B 0F - Retail 3	NO (-10.2%)	NO

Regulation 25A: Consideration of high efficiency alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters		Building Use		
	Actual	Notional	% Area	Building Type
Floor area [m ²]	1057.7	1057.7	100	Retail/Financial and Professional Services
External area [m ²]	2336.5	2336.5		Restaurants and Cafes/Drinking Establishments/Takeaways
Weather	LON	LON		Offices and Workshop Businesses
Infiltration [m ³ /hm ² @ 50Pa]	4	3		General Industrial and Special Industrial Groups
Average conductance [W/K]	694.82	876.61		Storage or Distribution
Average U-value [W/m ² K]	0.3	0.38		Hotels
Alpha value* [%]	5.84	19.39		Residential Institutions: Hospitals and Care Homes
				Residential Institutions: Residential Schools
				Residential Institutions: Universities and Colleges
				Secure Residential Institutions
				Residential Spaces
				Non-residential Institutions: Community/Day Centre
				Non-residential Institutions: Libraries, Museums, and Galleries
				Non-residential Institutions: Education
				Non-residential Institutions: Primary Health Care Building
				Non-residential Institutions: Crown and County Courts
				General Assembly and Leisure, Night Clubs, and Theatres
				Others: Passenger Terminals
				Others: Emergency Services
				Others: Miscellaneous 24hr Activities
				Others: Car Parks 24 hrs
				Others: Stand Alone Utility Block

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	1.05	6.26
Cooling	9.16	7.12
Auxiliary	5.27	12.3
Lighting	13.86	9.59
Hot water	0.31	0.59
Equipment*	20.26	20.26
TOTAL**	29.65	35.86

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0
<i>Displaced electricity</i>	<i>0</i>	<i>0</i>

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	209.5	172.36
Primary energy [kWh _{PE} /m ²]	44.08	53.1
Total emissions [kg/m ²]	3.99	4.9

HVAC Systems Performance

System Type	Heat dem MJ/m ²	Cool dem MJ/m ²	Heat con kWh/m ²	Cool con kWh/m ²	Aux con kWh/m ²	Heat SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Variable refrigerant flow, [HS] ASHP, [HFT] Electricity, [CFT] Electricity									
Actual	21.2	188.3	1.1	9.2	5.3	5.58	5.71	5.84	8.53
Notional	59.5	112.8	6.3	7.1	12.3	2.64	4.4	----	----

Key to terms

Heat dem [MJ/m ²]	= Heating energy demand
Cool dem [MJ/m ²]	= Cooling energy demand
Heat con [kWh/m ²]	= Heating energy consumption
Cool con [kWh/m ²]	= Cooling energy consumption
Aux con [kWh/m ²]	= Auxiliary energy consumption
Heat SSEEF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type

12.6. APPENDIX F: SAMPLE SAP SUMMARY INFORMATION SHEETS (BE LEAN)

Summary for Input Data



Property Reference	1B2F Flat TF			Issued on Date	25/07/2025					
Assessment Reference	001	Prop Type Ref	1B2F Flat TF							
Property	1B2F Flat TF									
SAP Rating	82 B	DER	15.80	TER	15.90					
Environmental	89 B	% DER < TER			0.63					
CO ₂ Emissions (t/year)	0.75	DFEE	38.86	TFEE	38.15					
Compliance Check	See BREL	% DFEE < TFEE			-1.87					
% DPER < TPER	-2.02	DPER	86.46	TPER	84.75					
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	Top-floor flat									
Which Floor	4									
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 ² 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:	19.50 m 29.98 m	52.69 m ² 54.17 m ²	2.50 m 2.70 m					
8.0 Living Area	23.22 m ²									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	42.42	27.51	0.00	None	14.91	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	6.33	6.33	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter	Shelter		
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	28.25	0.00	None	None		
9.2 Internal Walls										
Description	Construction					Kappa (kJ/m ² K)	Area (m ²)			
Internal Wall 1	Plasterboard on timber frame					9.00	94.40			
10.0 External Roofs										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation Type	Openings

Summary for Input Data

External Roof 1	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	52.69	52.69	None	0.00	Enter Gross Area	0.00
11.0 Heat Loss Floors										
Description	Type	Storey Index	Construction		U-Value (W/m ² K)	0.12	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Exposed Floor 1	Exposed Floor - Solid	Lowest occupied	Other				None	0.00	75.00	52.69
12.0 Opening Types										
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)	
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20	
13.0 Openings										
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch					
Front D	Entrance Door	External Wall 1	North	2.12	0					
Bottom W	Windows	External Wall 1	South	2.37	0					
Side W	Windows	External Wall 1	West	4.75	0					
Balcony Door	Patio Doors	External Wall 1	South	5.67	0					
14.0 Conservatory										
		None								
15.0 Draught Proofing										
		100	%							
16.0 Draught Lobby										
		No								
17.0 Thermal Bridging										
17.1 List of Bridges										
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported					
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.10	0.05	0.05	HiTherm	No				
E3 Sill	Non Gov Approved Schemes	6.09	0.02	0.02	RCD	No				
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD	No				
E16 Corner (normal)	Non Gov Approved Schemes	7.50	0.05	0.05	RCD	No				
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.31	0.35	0.35	TBC	No				
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	14.20	0.04	0.04		No				
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.09	-0.09	RCD	No				
E18 Party wall between dwellings	Non Gov Approved Schemes	2.50	0.04	0.04	RCD	No				
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	7.50	0.03	0.03	RCD	No				
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	11.29	0.00	0.00		No				
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	8.47	0.07	0.07	RCD	No				
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	11.03	0.04	0.04	RCD	No				
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	11.29	0.10	0.10	RCD	No				
Description	To be calculated									
19.0 Mechanical Ventilation										
Mechanical Ventilation										
Mechanical Ventilation System Present	Yes									
Approved Installation	Yes									
Mechanical Ventilation data Type	Database									
Type	Balanced mechanical ventilation with heat recovery									
MV Reference Number	500321									
Configuration	2									
Manufacturer SFP	0.76									
Duct Type	Rigid									
MVHR Efficiency	86.00									
Wet Rooms	2									
SFP from Installer Commissioning Certificate	No									
MVHR System Location	Inside heated envelope (installed exclusively)									
Duct Installation Specification	Level 2									
19.1 Mechanical extract ventilation - Decentralised										
SFP	Fan/Room Type	Count								
0.13	In Room Fan	1								
	Kitchen									
0.11	In Room Fan Other	1								
	Wet Room									

Summary for Input Data

0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	
0.10	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 ₅₀	Yes	
	4.00	m ³ /(h.m ²) @ 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	
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										
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										
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										
Immersion Heater	Single										
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										
Bathroom	Combi boiler or unvented hot water system										
	Flow Rate [l/min]										
	8.00										
	Rated Power [kW]										
	No										
	Connected To Instantaneous System 1										
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	Yes										
Insulation Thickness Type	Measured Loss										
Insulation Thickness	Other										
Insulation Thickness	15										
Cylinder Volume	180.00										
Loss	0.84										
Pipes insulation	L										
In Airing Cupboard	kWh/day										
	Fully insulated primary pipework										
	No										
31.0 Thermal Store											
Thermal Store Pipework	None										
	within a single casing										
32.0 Photovoltaic Unit											
Export Capable Meter?	Multiple Dwellings – Not Connected										
Connected To Dwelling	Yes										
Diverter	No										
Battery Capacity [kWh]	No										
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer			
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00					
34.0 Small-scale Hydro											
Electricity Generated	None										
Apportioned	0.00										
Connected to dwelling's electricity meter	0.00						kWh/Year				
Electricity Generation	Yes										
	Annual										
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Summary for Input Data



Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	1B2P Flat EF Corner (EC)			Issued on Date	25/07/2025																																	
Assessment Reference	001	Prop Type Ref	1B2P Flat EF Corner (EC)																																			
Property	1B2P Flat EF Corner (EC)																																					
SAP Rating	83 B	DER	15.80	TER	15.73																																	
Environmental	89 B	% DER < TER			-0.45																																	
CO ₂ Emissions (t/year)	0.77	DFEE	35.19	TFEE	38.28																																	
Compliance Check	See BREL	% DFEE < TFEE			8.08																																	
% DPER < TPER	-1.17	DPER	84.74	TPER	83.76																																	
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, End-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 ² K																																					
7.0 Electricity Tariff	Standard																																					
Smart electricity meter fitted	Yes																																					
Smart gas meter fitted	Yes																																					
7.0 Measurements	<table border="1"> <tr> <th colspan="2"></th> <th>Heat Loss Perimeter</th> <th>Internal Floor Area</th> <th colspan="2">Average Storey Height</th> </tr> <tr> <td colspan="2">Ground floor:</td> <td>19.29 m</td> <td>54.47 m²</td> <td colspan="2">2.50 m</td> </tr> <tr> <td colspan="2">1st Storey:</td> <td>29.98 m</td> <td>54.17 m²</td> <td colspan="2">2.70 m</td> </tr> </table>							Heat Loss Perimeter	Internal Floor Area	Average Storey Height		Ground floor:		19.29 m	54.47 m ²	2.50 m		1st Storey:		29.98 m	54.17 m ²	2.70 m																
		Heat Loss Perimeter	Internal Floor Area	Average Storey Height																																		
Ground floor:		19.29 m	54.47 m ²	2.50 m																																		
1st Storey:		29.98 m	54.17 m ²	2.70 m																																		
8.0 Living Area	25.44 m ²																																					
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>43.97</td> <td>30.43</td> <td>0.00</td> <td>None</td> <td>13.54</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>4.24</td> <td>2.12</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>2.12</td> <td>Enter Gross Area</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	43.97	30.43	0.00	None	13.54	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	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type																												
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Communal Wall	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.26	110.00	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area																												
9.1 Party Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> </tr> </thead> <tbody> <tr> <td>Party Wall 1</td> <td>Filled Cavity with Edge Sealing</td> <td>Double plasterboard on both sides, twin timber frame with/without sheathing board</td> <td>0.00</td> <td>20.00</td> <td>27.03</td> <td>0.00</td> <td>None</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter	Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None																	
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter																															
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None																															
9.2 Internal Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Internal Wall 1</td> <td>Plasterboard on timber frame</td> <td>9.00</td> <td>119.81</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Internal Wall 1	Plasterboard on timber frame	9.00	119.81																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																			
Internal Wall 1	Plasterboard on timber frame	9.00	119.81																																			
10.1 Party Ceilings	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Party Ceiling 1</td> <td>Precast concrete planks floor, screed, carpeted</td> <td>30.00</td> <td>54.47</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	54.47																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																			
Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	54.47																																			

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Exposed Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	54.47

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	0
Bottom W	Windows	External Wall 1	South	5.94	0

14.0 Conservatory

15.0 Draught Proofing

 %

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.46	0.05	0.05 HiTherm	No
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.29	0.04	0.04 RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	10.81	0.00	0.00	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03 RCD	No
E20 Exposed floor (normal)	Non Gov Approved Schemes	19.29	0.00	0.00	No
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	10.81	0.48	0.48	No

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Mechanical extract ventilation - decentralised"/>
MV Reference Number	<input type="text" value="500776"/>
Configuration	<input type="text" value="1"/>
Manufacturer SFP	<input type="text" value="0.14"/>
Duct Type	<input type="text" value="Rigid"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>

19.1 Mechanical extract ventilation - Decentralised

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

20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	<input type="text" value="0"/>
Number of open flues	<input type="text" value="0"/>
Number of chimneys/flues attached to closed fire	<input type="text" value="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										
21.0 Fixed Cooling System	No										
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
24.0 Main Heating 1	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										
25.0 Main Heating 2	None										
26.0 Heat Networks	None										
27.0 Secondary Heating	None										
28.0 Water Heating	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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	1B2P Flat EF Mid (EC)	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	1B2P Flat EF Mid (EC)
Property	1B2P Flat EF Mid (EC)		
SAP Rating	83 B	DER	16.91
Environmental	88 B	% DER < TER	-11.99
CO ₂ Emissions (t/year)	0.83	DFEE	39.37
Compliance Check	See BREL	% DFEE < TFEE	-13.81
% DPER < TPER	-12.83	DPER	90.82
TPER	80.49		

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	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 ² 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:	1st Storey:	13.51 m 29.98 m	54.22 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	24.89	m ²
-----------------	-------	----------------

9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	16.39	8.79	0.00	None	7.60	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	17.38	15.26	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	41.76	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	119.00

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	54.22

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m²K)	Shelter Code	Shelter Factor	Kappa (kJ/m²K)	Area (m²)
Exposed Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	54.22

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	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)	Non Gov Approved Schemes	4.63	0.05	0.05 HiTherm	No
E4 Jamb	Non Gov Approved Schemes	12.60	0.02	0.02 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	13.51	0.04	0.04	No
E18 Party wall between dwellings	Non Gov Approved Schemes	10.00	0.04	0.04 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	16.70	0.00	0.00	No
E20 Exposed floor (normal)	Table K1 - Default	13.51	0.32	0.32	No
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	16.70	0.48	0.48	No

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500776
Configuration	1
Manufacturer SFP	0.14
Duct Type	Rigid
Wet Rooms	2
SFP from Installer Commissioning Certificate	No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan	0
0.00	Kitchen	0
	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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										
21.0 Fixed Cooling System	No										
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
24.0 Main Heating 1	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										
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										
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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	1B2P Flat EF	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	1B2P Flat EF
Property	1B2P Flat EF		
SAP Rating	82 B	DER	16.22
Environmental	89 B	% DER < TER	-4.65
CO ₂ Emissions (t/year)	0.76	DFEE	40.87
Compliance Check	See BREL	% DFEE < TFEE	-12.48
% DPER < TPER	-7.39	DPER	88.69
TPER	82.59		

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 ² 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:	19.50 m	1st Storey:	52.69 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	23.22	m ²
-----------------	-------	----------------

9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	42.42	27.51	0.00	None	14.91	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	6.33	6.33	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	28.25	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	94.40

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	52.69

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Exposed Floor 1	Exposed Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	52.69

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	2.37	0
Side W	Windows	External Wall 1	West	4.75	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	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)	Non Gov Approved Schemes	7.10	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	6.09	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.50	0.05	0.05	RCD
E20 Exposed floor (normal)	Table K1 - Default	14.20	0.32	0.32	
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.31	0.35	0.35	TBC
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.50	0.04	0.04	
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.09	-0.09	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.50	0.04	0.04	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	7.50	0.03	0.03	RCD
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	11.29	0.48	0.48	
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	11.29	0.00	0.00	

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Balanced mechanical ventilation with heat recovery
MV Reference Number	500321
Configuration	2
Manufacturer SFP	0.76
Duct Type	Rigid
MVHR Efficiency	86.00
Wet Rooms	2
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)
Duct Installation Specification	Level 2

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	

Summary for Input Data

0.10	Through Wall Fan	0
0.10	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

22.0 Pressure Testing

Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 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	
Flow Temperature	Enter value	
Flow Temperature Value	55.00	
Boiler Interlock	Yes	
Combi boiler type	Standard Combi	

25.0 Main Heating 2

None
None

26.0 Heat Networks

None
None

27.0 Secondary Heating

None
None

Summary for Input Data

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
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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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

Summary for Input Data



Further measures to achieve even higher standards
None

Summary for Input Data



Property Reference	1B2P Flat GF Corner (EC)			Issued on Date	25/07/2025																																	
Assessment Reference	001	Prop Type Ref	1B2P Flat GF Corner (EC)																																			
Property	1B2P Flat GF Corner (EC)																																					
SAP Rating	83 B	DER	15.41	TER	14.90																																	
Environmental	89 B	% DER < TER			-3.42																																	
CO ₂ Emissions (t/year)	0.75	DFEE	33.42	TFEE	34.54																																	
Compliance Check	See BREL	% DFEE < TFEE			3.22																																	
% DPER < TPER	-4.22	DPER	82.64	TPER	79.29																																	
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																																					
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1.0 Property Type	Flat, End-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 ² K																																					
7.0 Electricity Tariff	Standard																																					
Smart electricity meter fitted	Yes																																					
Smart gas meter fitted	Yes																																					
7.0 Measurements	<table border="1"> <tr> <th colspan="2"></th> <th>Heat Loss Perimeter</th> <th>Internal Floor Area</th> <th>Average Storey Height</th> </tr> <tr> <td colspan="2">Ground floor:</td> <td>19.29 m</td> <td>54.47 m²</td> <td>2.50 m</td> </tr> <tr> <td colspan="2">1st Storey:</td> <td>29.98 m</td> <td>54.17 m²</td> <td>2.70 m</td> </tr> </table>							Heat Loss Perimeter	Internal Floor Area	Average Storey Height	Ground floor:		19.29 m	54.47 m ²	2.50 m	1st Storey:		29.98 m	54.17 m ²	2.70 m																		
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8.0 Living Area	25.44 m ²																																					
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>43.97</td> <td>30.43</td> <td>0.00</td> <td>None</td> <td>13.54</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>4.24</td> <td>2.12</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>2.12</td> <td>Enter Gross Area</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	43.97	30.43	0.00	None	13.54	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	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type																												
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter																															
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None																															
9.2 Internal Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Internal Wall 1</td> <td>Plasterboard on timber frame</td> <td>9.00</td> <td>119.81</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Internal Wall 1	Plasterboard on timber frame	9.00	119.81																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																			
Internal Wall 1	Plasterboard on timber frame	9.00	119.81																																			
10.1 Party Ceilings	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Party Ceiling 1</td> <td>Precast concrete planks floor, screed, carpeted</td> <td>30.00</td> <td>54.47</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	54.47																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																			
Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	54.47																																			

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	54.47

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	0
Bottom W	Windows	External Wall 1	South	5.94	0

14.0 Conservatory

15.0 Draught Proofing

 %

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.46	0.05	0.05 HiTherm	No
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.29	0.04	0.04 RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	10.81	0.00	0.00 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.29	0.11	0.11 RCD	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	10.81	0.11	0.11 RCD	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03 RCD	No

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Mechanical extract ventilation - decentralised"/>
MV Reference Number	<input type="text" value="500776"/>
Configuration	<input type="text" value="1"/>
Manufacturer SFP	<input type="text" value="0.14"/>
Duct Type	<input type="text" value="Rigid"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>

19.1 Mechanical extract ventilation - Decentralised

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

20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	<input type="text" value="0"/>
Number of open flues	<input type="text" value="0"/>
Number of chimneys/flues attached to closed fire	<input type="text" value="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										
21.0 Fixed Cooling System	No										
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
24.0 Main Heating 1	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										
25.0 Main Heating 2	None										
26.0 Heat Networks	None										
27.0 Secondary Heating	None										
28.0 Water Heating	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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	1B2P Flat GF	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	1B2P Flat GF
Property	1B2P Flat GF		
SAP Rating	83 B	DER	14.45
Environmental	90 B	% DER < TER	14.98
CO ₂ Emissions (t/year)	0.68	DFEE	32.62
Compliance Check	See BREL	% DFEE < TFEE	33.97
% DPER < TPER	0.78	DPER	79.17
TPER	79.79		

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	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 ² 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:	1st Storey:	19.50 m 29.98 m	52.69 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	23.22	m ²
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9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	42.42	27.51	0.00	None	14.91	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	6.33	6.33	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	28.25	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	94.40

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	52.69

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	52.69

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	2.37	0
Side W	Windows	External Wall 1	West	4.75	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	0

14.0 Conservatory

15.0 Draught Proofing

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.10	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	6.09	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	7.50	0.05	0.05 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.50	0.04	0.04	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.09	-0.09 RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	2.50	0.04	0.04 RCD	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	7.50	0.03	0.03 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	11.29	0.00	0.00	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	11.29	0.11	0.11 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.50	0.11	0.11 RCD	No

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Balanced mechanical ventilation with heat recovery"/>
MV Reference Number	<input type="text" value="500321"/>
Configuration	<input type="text" value="2"/>
Manufacturer SFP	<input type="text" value="0.76"/>
Duct Type	<input type="text" value="Rigid"/>
MVHR Efficiency	<input type="text" value="86.00"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>
MVHR System Location	<input type="text" value="Inside heated envelope (installed exclusively)"/>
Duct Installation Specification	<input type="text" value="Level 2"/>

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	
0.10	Through Wall Fan	0
	Other Wet Room	

Summary for Input Data

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 ₅₀	Yes
	4.00
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	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	
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

27.0 Secondary Heating

None

28.0 Water Heating

Water Heating	Main Heating 1
SAP Code	901

Summary for Input Data

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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	1B2P Flat MF Corner (EC)			Issued on Date	25/07/2025
Assessment Reference	001		Prop Type Ref	1B2P Flat MF Corner (EC)	
Property	1B2P Flat MF Corner (EC)				
SAP Rating	84 B	DER	13.69	TER	13.03
Environmental	90 B	% DER < TER			-5.07
CO ₂ Emissions (t/year)	0.68	DFEE	25.41	TFEE	26.04
Compliance Check	See BREL	% DFEE < TFEE			2.41
% DPER < TPER	-5.95	DPER	73.39	TPER	69.27

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, End-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 ² 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:	19.29 m		54.47 m ²	2.50 m
1st Storey:	29.98 m		54.17 m ²	2.70 m

8.0 Living Area	25.44	m ²
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9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	43.97	30.43	0.00	None	13.54	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	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	119.81

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	54.47

Summary for Input Data

11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	54.47

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	0
Bottom W	Windows	External Wall 1	South	5.94	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)	Non Gov Approved Schemes	7.46	0.05	0.05	HiTherm
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	38.58	0.04	0.04	No
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	21.62	0.00	0.00	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500776
Configuration	1
Manufacturer SFP	0.14
Duct Type	Rigid
Wet Rooms	2
SFP from Installer Commissioning Certificate	No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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/>											
21.0 Fixed Cooling System	No										
<hr/>											
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<hr/>											
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
<hr/>											
24.0 Main Heating 1	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/>											
25.0 Main Heating 2	None										
<hr/>											
26.0 Heat Networks	None										
<hr/>											
27.0 Secondary Heating	None										
<hr/>											
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										
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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00
Orientation	Horizontal
Elevation	Horizontal
Overshading	None Or Little
FGHRS	No
MCS Certificate	No
Overshading Factor	1.00
MCS Certificate Reference	
Panel Manufacturer	

34.0 Small-scale Hydro

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	1B2P Flat MF Mid (EC)			Issued on Date	25/07/2025
Assessment Reference	001		Prop Type Ref	1B2P Flat MF Mid (EC)	
Property	1B2P Flat MF Mid (EC)				
SAP Rating	85 B	DER	13.02	TER	12.39
Environmental	91 B	% DER < TER			-5.08
CO ₂ Emissions (t/year)	0.65	DFEE	21.28	TFEE	22.13
Compliance Check	See BREL	% DFEE < TFEE			3.80
% DPER < TPER	-6.02	DPER	69.92	TPER	65.95

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 ² 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:	13.51 m	54.22 m ²	2.50 m
1st Storey:	29.98 m	54.17 m ²	2.70 m

8.0 Living Area	24.89	m ²
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9.0 External Walls	Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall		Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	16.39	8.79	0.00	None	7.60	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	17.38	15.26	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area

9.1 Party Walls	Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing		Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	41.76	0.00	None

9.2 Internal Walls	Description	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	119.00

10.1 Party Ceilings	Description	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	54.22

Summary for Input Data

11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	54.22

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	0

14.0 Conservatory

15.0 Draught Proofing

%

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	4.63	0.05	0.05	HiTherm
E4 Jamb	Non Gov Approved Schemes	12.60	0.02	0.02	RCD
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	27.02	0.04	0.04	
E18 Party wall between dwellings	Non Gov Approved Schemes	10.00	0.04	0.04	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	33.40	0.00	0.00	

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Mechanical extract ventilation - decentralised"/>
MV Reference Number	<input type="text" value="500776"/>
Configuration	<input type="text" value="1"/>
Manufacturer SFP	<input type="text" value="0.14"/>
Duct Type	<input type="text" value="Rigid"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>

19.1 Mechanical extract ventilation - Decentralised

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

20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	<input type="text" value="0"/>
Number of open flues	<input type="text" value="0"/>
Number of chimneys/flues attached to closed fire	<input type="text" value="0"/>
Number of flues attached to solid fuel boiler	<input type="text" value="0"/>
Number of flues attached to other heater	<input type="text" value="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										
21.0 Fixed Cooling System	No										
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
24.0 Main Heating 1	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										
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										
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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	1B2P Flat MF	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	1B2P Flat MF
Property	1B2P Flat MF		
SAP Rating	84 B	DER	13.18
Environmental	91 B	% DER < TER	-0.76
CO ₂ Emissions (t/year)	0.63	DFEE	26.12
Compliance Check	See BREL	% DFEE < TFEE	-3.45
% DPER < TPER	-4.05	DPER	72.36
TPER	13.08	TPER	69.54

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	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 ² 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:	19.50 m	1st Storey:	52.69 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	23.22	m ²
-----------------	-------	----------------

9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	42.42	27.51	0.00	None	14.91	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	6.33	6.33	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	28.25	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	94.40

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	52.69

Summary for Input Data

11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	52.69

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	2.37	0
Side W	Windows	External Wall 1	West	4.75	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	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)	Non Gov Approved Schemes	7.10	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	6.09	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.50	0.05	0.05	RCD
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.31	0.35	0.35	TBC
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	33.70	0.04	0.04	
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.09	-0.09	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.50	0.04	0.04	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	7.50	0.03	0.03	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	22.58	0.00	0.00	

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Balanced mechanical ventilation with heat recovery
MV Reference Number	500321
Configuration	2
Manufacturer SFP	0.76
Duct Type	Rigid
MVHR Efficiency	86.00
Wet Rooms	2
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)
Duct Installation Specification	Level 2

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	

Summary for Input Data

0.10 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 ₅₀	4.00	m ³ /(h.m ²) @ 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	Manufacturer
Database Ref. No.	100.00
Fuel Type	0
SAP Code	Mains gas
In Winter	104
In Summer	88.90
Model Name	80.30
Manufacturer	Gas
Controls SAP Code	Gas
Delayed Start Stat	2110
Burner Control	Yes
HETAS approved System	Modulating
Flue Type	No
Fan Assisted Flue	Balanced
Is MHS Pumped	Yes
Heating Pump Age	Pump in heated space
Heat Emitter	2013 or later
Flow Temperature	Radiators
Flow Temperature Value	Enter value
Boiler Interlock	55.00
Combi boiler type	Yes

25.0 Main Heating 2

None

26.0 Heat Networks

None

27.0 Secondary Heating

None

28.0 Water Heating

Summary for Input Data

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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

34.0 Small-scale Hydro

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

Summary for Input Data



None

Summary for Input Data



Property Reference	1B2P Flat TF Corner (EC)			Issued on Date	25/07/2025																																	
Assessment Reference	001	Prop Type Ref	1B2P Flat TF Corner (EC)																																			
Property	1B2P Flat TF Corner (EC)																																					
SAP Rating	83 B	DER	15.30	TER	14.55																																	
Environmental	89 B	% DER < TER			-5.15																																	
CO ₂ Emissions (t/year)	0.76	DFEE	32.78	TFEE	32.91																																	
Compliance Check	See BREL	% DFEE < TFEE			0.40																																	
% DPER < TPER	-5.93	DPER	82.02	TPER	77.43																																	
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	Flat, End-Terrace																																					
Position of Flat	Top-floor flat																																					
Which Floor	4																																					
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 ² K																																					
7.0 Electricity Tariff	Standard																																					
Smart electricity meter fitted	Yes																																					
Smart gas meter fitted	Yes																																					
7.0 Measurements	<table border="1"> <tr> <th colspan="2"></th> <th>Heat Loss Perimeter</th> <th>Internal Floor Area</th> <th>Average Storey Height</th> </tr> <tr> <td colspan="2">Ground floor:</td> <td>19.29 m</td> <td>54.47 m²</td> <td>2.50 m</td> </tr> <tr> <td colspan="2">1st Storey:</td> <td>29.98 m</td> <td>54.17 m²</td> <td>2.70 m</td> </tr> </table>							Heat Loss Perimeter	Internal Floor Area	Average Storey Height	Ground floor:		19.29 m	54.47 m ²	2.50 m	1st Storey:		29.98 m	54.17 m ²	2.70 m																		
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8.0 Living Area	25.44 m ²																																					
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>43.97</td> <td>30.43</td> <td>0.00</td> <td>None</td> <td>13.54</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>4.24</td> <td>2.12</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>2.12</td> <td>Enter Gross Area</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	43.97	30.43	0.00	None	13.54	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	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type																												
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter																															
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None																															
9.2 Internal Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Internal Wall 1</td> <td>Plasterboard on timber frame</td> <td>9.00</td> <td>119.81</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Internal Wall 1	Plasterboard on timber frame	9.00	119.81																									
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10.0 External Roofs	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Code</th> <th>Shelter Factor</th> <th>Calculation Type</th> <th>Openings</th> </tr> </thead> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation Type	Openings																						
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation Type	Openings																												

Summary for Input Data



External Roof 1	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	54.47	54.47	None	0.00	Enter Gross Area	0.00										
11.1 Party Floors																				
Description	Storey Index	Construction					Kappa (kJ/m ² K)		Area (m ²)											
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted					30.00		54.47											
12.0 Opening Types																				
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)											
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20											
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20											
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20											
13.0 Openings																				
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch															
Front D	Entrance Door	Communal Wall	East	2.12	0															
Side W	Windows	External Wall 1	West	3.80	0															
Patio Doors	Patio Doors	External Wall 1	West	3.80	0															
Bottom W	Windows	External Wall 1	South	5.94	0															
14.0 Conservatory																				
		None																		
15.0 Draught Proofing																				
		100								%										
16.0 Draught Lobby																				
		No																		
17.0 Thermal Bridging																				
17.1 List of Bridges																				
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported															
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.46	0.05	0.05	HiTherm					No										
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD					No										
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD					No										
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.29	0.04	0.04						No										
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD					No										
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	10.81	0.00	0.00						No										
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD					No										
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	19.29	0.07	0.07	RCD					No										
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	10.81	0.10	0.10	RCD					No										
Description	To be calculated																			
19.0 Mechanical Ventilation																				
Mechanical Ventilation																				
Mechanical Ventilation System Present		Yes																		
Approved Installation		Yes																		
Mechanical Ventilation data Type		Database																		
Type		Mechanical extract ventilation - decentralised																		
MV Reference Number		500776																		
Configuration		1																		
Manufacturer SFP		0.14																		
Duct Type		Rigid																		
Wet Rooms		2																		
SFP from Installer Commissioning Certificate		No																		
19.1 Mechanical extract ventilation - Decentralised																				
SFP	Fan/Room Type	Count																		
0.14	In Room Fan	1																		
	Kitchen																			
0.11	In Room Fan Other	1																		
	Wet Room																			
0.00	In Duct Fan Kitchen	0																		
0.00	In Duct Fan Other	0																		
	Wet Room																			
0.08	Through Wall Fan	0																		
	Kitchen																			
0.08	Through Wall Fan	0																		
	Other Wet Room																			
20.0 Fans, Open Fireplaces, Flues																				
Number of open chimneys		0																		

Summary for Input Data

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	Yes																																																
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa																																															
Property Tested?	Yes																																																
Test Method	Blower Door																																																
22.0 Lighting	<table border="1"> <tr> <td>No</td> <td>Name Lighting 1</td> <td>Efficacy 75.00</td> <td>Power 10.00</td> <td>Capacity 750.00</td> <td>Count 25</td> </tr> </table>					No	Name Lighting 1	Efficacy 75.00	Power 10.00	Capacity 750.00	Count 25																																						
No	Name Lighting 1	Efficacy 75.00	Power 10.00	Capacity 750.00	Count 25																																												
24.0 Main Heating 1	<table border="1"> <tr> <td>Manufacturer</td> <td>%</td> </tr> <tr> <td>100.00</td> <td></td> </tr> <tr> <td>0</td> <td></td> </tr> <tr> <td>Mains gas</td> <td></td> </tr> <tr> <td>104</td> <td></td> </tr> <tr> <td>88.90</td> <td></td> </tr> <tr> <td>80.30</td> <td></td> </tr> <tr> <td>Gas</td> <td></td> </tr> <tr> <td>Gas</td> <td></td> </tr> <tr> <td>2110</td> <td></td> </tr> <tr> <td>Yes</td> <td></td> </tr> <tr> <td>Modulating</td> <td></td> </tr> <tr> <td>No</td> <td></td> </tr> <tr> <td>Balanced</td> <td></td> </tr> <tr> <td>Yes</td> <td></td> </tr> <tr> <td>Pump in heated space</td> <td></td> </tr> <tr> <td>2013 or later</td> <td></td> </tr> <tr> <td>Radiators</td> <td></td> </tr> <tr> <td>Enter value</td> <td></td> </tr> <tr> <td>55.00</td> <td></td> </tr> <tr> <td>Yes</td> <td></td> </tr> <tr> <td>Standard Combi</td> <td></td> </tr> </table>					Manufacturer	%	100.00		0		Mains gas		104		88.90		80.30		Gas		Gas		2110		Yes		Modulating		No		Balanced		Yes		Pump in heated space		2013 or later		Radiators		Enter value		55.00		Yes		Standard Combi	
Manufacturer	%																																																
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Standard Combi																																																	
25.0 Main Heating 2	None																																																
26.0 Heat Networks	None																																																
27.0 Secondary Heating	None																																																
28.0 Water Heating	<table border="1"> <tr> <td>Main Heating 1</td> </tr> <tr> <td>901</td> </tr> <tr> <td>No</td> </tr> </table>					Main Heating 1	901	No																																									
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901																																																	
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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	1B2P Flat TF Mid (EC)			Issued on Date	25/07/2025																																	
Assessment Reference	001	Prop Type Ref	1B2P Flat TF Mid (EC)																																			
Property	1B2P Flat TF Mid (EC)																																					
SAP Rating	84 B	DER	14.58	TER	14.09																																	
Environmental	90 B	% DER < TER			-3.48																																	
CO ₂ Emissions (t/year)	0.72	DFEE	28.51	TFEE	29.87																																	
Compliance Check	See BREL	% DFEE < TFEE			4.57																																	
% DPER < TPER	-4.30	DPER	78.32	TPER	75.09																																	
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	4																																					
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 ² K																																					
7.0 Electricity Tariff	Standard																																					
Smart electricity meter fitted	Yes																																					
Smart gas meter fitted	Yes																																					
7.0 Measurements	<table border="1"> <tr> <th colspan="2"></th> <th>Heat Loss Perimeter</th> <th>Internal Floor Area</th> <th>Average Storey Height</th> </tr> <tr> <td colspan="2">Ground floor:</td> <td>13.51 m</td> <td>54.22 m²</td> <td>2.50 m</td> </tr> <tr> <td colspan="2">1st Storey:</td> <td>29.98 m</td> <td>54.17 m²</td> <td>2.70 m</td> </tr> </table>							Heat Loss Perimeter	Internal Floor Area	Average Storey Height	Ground floor:		13.51 m	54.22 m ²	2.50 m	1st Storey:		29.98 m	54.17 m ²	2.70 m																		
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1st Storey:		29.98 m	54.17 m ²	2.70 m																																		
8.0 Living Area	24.89 m ²																																					
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>16.39</td> <td>8.79</td> <td>0.00</td> <td>None</td> <td>7.60</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>17.38</td> <td>15.26</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>2.12</td> <td>Enter Gross Area</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	16.39	8.79	0.00	None	7.60	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	17.38	15.26	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type																												
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	16.39	8.79	0.00	None	7.60	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	17.38	15.26	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area																												
9.1 Party Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> </tr> </thead> <tbody> <tr> <td>Party Wall 1</td> <td>Filled Cavity with Edge Sealing</td> <td>Double plasterboard on both sides, twin timber frame with/without sheathing board</td> <td>0.00</td> <td>20.00</td> <td>41.76</td> <td>0.00</td> <td>None</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter	Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	41.76	0.00	None																	
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter																															
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	41.76	0.00	None																															
9.2 Internal Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Internal Wall 1</td> <td>Plasterboard on timber frame</td> <td>9.00</td> <td>119.00</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Internal Wall 1	Plasterboard on timber frame	9.00	119.00																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																			
Internal Wall 1	Plasterboard on timber frame	9.00	119.00																																			
10.0 External Roofs	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Code</th> <th>Shelter Factor</th> <th>Calculation Type</th> <th>Openings</th> </tr> </thead> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation Type	Openings																						
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation Type	Openings																												

Summary for Input Data

External Roof 1	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	54.22	54.22	None	0.00	Enter Gross Area	0.00
11.1 Party Floors										
Description	Storey Index	Construction					Kappa (kJ/m ² K)		Area (m ²)	
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted					30.00		54.22	
12.0 Opening Types										
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)	
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20	
13.0 Openings										
Name	Opening Type	Location	Orientation	Area (m ²)		Pitch				
Front D	Entrance Door	Communal Wall	East	2.12		0				
Side W	Windows	External Wall 1	West	3.80		0				
Patio Doors	Patio Doors	External Wall 1	West	3.80		0				
14.0 Conservatory										
		None								
15.0 Draught Proofing										
		100								%
16.0 Draught Lobby										
		No								
17.0 Thermal Bridging										
17.1 List of Bridges										
Bridge Type	Source Type	Length	Psi	Adjusted Reference:		Imported				
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	4.63	0.05	0.05	HiTherm	No				
E4 Jamb	Non Gov Approved Schemes	12.60	0.02	0.02	RCD	No				
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	13.51	0.04	0.04		No				
E18 Party wall between dwellings	Non Gov Approved Schemes	10.00	0.04	0.04	RCD	No				
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	16.70	0.00	0.00		No				
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	13.51	0.00	0.00	RCD	No				
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	16.70	0.10	0.10	RCD	No				
Description	To be calculated									
19.0 Mechanical Ventilation										
Mechanical Ventilation										
Mechanical Ventilation System Present	Yes									
Approved Installation	Yes									
Mechanical Ventilation data Type	Database									
Type	Mechanical extract ventilation - decentralised									
MV Reference Number	500776									
Configuration	1									
Manufacturer SFP	0.14									
Duct Type	Rigid									
Wet Rooms	2									
SFP from Installer Commissioning Certificate	No									
19.1 Mechanical extract ventilation - Decentralised										
SFP	Fan/Room Type	Count								
0.14	In Room Fan	1								
	Kitchen									
0.11	In Room Fan Other	1								
	Wet Room									
0.00	In Duct Fan Kitchen	0								
0.00	In Duct Fan Other	0								
	Wet Room									
0.08	Through Wall Fan	0								
	Kitchen									
0.08	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									

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										
21.0 Fixed Cooling System	No										
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
24.0 Main Heating 1	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										
25.0 Main Heating 2	None										
26.0 Heat Networks	None										
27.0 Secondary Heating	None										
28.0 Water Heating	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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	2B4P Flat EF	Issued on Date	25/07/2025																																					
Assessment Reference	001	Prop Type Ref	2B4P Flat EF																																					
Property	2B4P Flat EF																																							
SAP Rating	83 B	DER	13.71																																					
Environmental	89 B	% DER < TER																																						
CO ₂ Emissions (t/year)	0.91	DFEE	36.51																																					
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TPER	68.09																																							
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																																							
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1st Storey:		29.98 m	54.17 m ²	2.70 m																																				
8.0 Living Area	28.52	m ²																																						
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>45.33</td> <td>29.01</td> <td>0.00</td> <td>None</td> <td>16.32</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>7.37</td> <td>7.37</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>0.00</td> <td>Enter Gross Area</td> </tr> </tbody> </table>							Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	45.33	29.01	0.00	None	16.32	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	7.37	7.37	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
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Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	37.97	0.00	None																																	
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Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	74.20																																					

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Exposed Floor 1	Exposed Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	74.20

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	4.75	0
Side W	Windows	External Wall 1	East	3.78	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	0

14.0 Conservatory

15.0 Draught Proofing

 %

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.77	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	6.76	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD
E20 Exposed floor (normal)	Table K1 - Default	15.16	0.32	0.32	
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.93	0.35	0.35	TBC
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	21.09	0.04	0.04	
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.50	-0.09	-0.09	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	15.19	0.48	0.48	
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	15.19	0.00	0.00	

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Balanced mechanical ventilation with heat recovery"/>
MV Reference Number	<input type="text" value="500321"/>
Configuration	<input type="text" value="2"/>
Manufacturer SFP	<input type="text" value="0.76"/>
Duct Type	<input type="text" value="Rigid"/>
MVHR Efficiency	<input type="text" value="86.00"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>
MVHR System Location	<input type="text" value="Inside heated envelope (installed exclusively)"/>
Duct Installation Specification	<input type="text" value="Level 2"/>

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	

Summary for Input Data

0.10	Through Wall Fan	0
0.10	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

22.0 Pressure Testing

Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 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	
Flow Temperature	Enter value	
Flow Temperature Value	55.00	
Boiler Interlock	Yes	
Combi boiler type	Standard Combi	

25.0 Main Heating 2

None
None

26.0 Heat Networks

None
None

27.0 Secondary Heating

None
None

Summary for Input Data

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
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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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

Summary for Input Data



Further measures to achieve even higher standards
None

Summary for Input Data



Property Reference	2B4P Flat GF (EC)	Issued on Date	25/07/2025																																					
Assessment Reference	001	Prop Type Ref	2B4P Flat GF (EC)																																					
Property	2B4P Flat GF (EC)																																							
SAP Rating	84 B	DER	13.94																																					
Environmental	88 B	% DER < TER																																						
CO ₂ Emissions (t/year)	1.04	DFEE	35.26																																					
Compliance Check	See BREL	% DFEE < TFEE																																						
% DPER < TPER	-8.61	DPER	75.11																																					
TPER	69.15																																							
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	Flat, End-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 ² K																																						
7.0 Electricity Tariff	Standard																																							
Smart electricity meter fitted	Yes																																							
Smart gas meter fitted	Yes																																							
7.0 Measurements	<table border="1"> <tr> <th colspan="2"></th> <th>Heat Loss Perimeter</th> <th>Internal Floor Area</th> <th>Average Storey Height</th> </tr> <tr> <td colspan="2">Ground floor:</td> <td>28.27 m</td> <td>83.20 m²</td> <td>2.50 m</td> </tr> <tr> <td colspan="2">1st Storey:</td> <td>29.98 m</td> <td>54.17 m²</td> <td>2.70 m</td> </tr> </table>						Heat Loss Perimeter	Internal Floor Area	Average Storey Height	Ground floor:		28.27 m	83.20 m ²	2.50 m	1st Storey:		29.98 m	54.17 m ²	2.70 m																					
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Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	83.20

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	7.60	0
Patio Doors	Patio Doors	External Wall 1	West	7.60	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)	Non Gov Approved Schemes	8.25	0.05	0.05	HiTherm
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	28.27	0.04	0.04	
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	8.35	0.00	0.00	
E5 Ground floor (normal)	Non Gov Approved Schemes	28.27	0.11	0.11	RCD
P1 Party wall - Ground floor	Non Gov Approved Schemes	8.35	0.11	0.11	RCD

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500776
Configuration	1
Manufacturer SFP	0.14
Duct Type	Rigid
Wet Rooms	2
SFP from Installer Commissioning Certificate	No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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/>											
21.0 Fixed Cooling System	No										
<hr/>											
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
<hr/>											
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
<hr/>											
24.0 Main Heating 1	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/>											
25.0 Main Heating 2	None										
<hr/>											
26.0 Heat Networks	None										
<hr/>											
27.0 Secondary Heating	None										
<hr/>											
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										
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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00
Orientation	Horizontal
Elevation	Horizontal
Overshading	None Or Little
FGHRS	No
MCS Certificate	No
Overshading Factor	1.00
MCS Certificate Reference	
Panel Manufacturer	

34.0 Small-scale Hydro

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	2B4P Flat GF	Issued on Date	25/07/2025							
Assessment Reference	001	Prop Type Ref	2B4P Flat GF							
Property	2B4P Flat GF									
SAP Rating	84 B	DER	12.16							
Environmental	90 B	% DER < TER								
CO ₂ Emissions (t/year)	0.81	DFEE	29.28							
Compliance Check	See BREL	% DFEE < TFEE								
% DPER < TPER	-2.06	DPER	67.16							
TPER	12.43									
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	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 ² K								
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
	Ground floor: 21.08 m	Heat Loss Perimeter	Internal Floor Area							
	1st Storey: 29.98 m		74.20 m ²							
			54.17 m ²							
			Average Storey Height							
			2.50 m							
			2.70 m							
8.0 Living Area	28.52	m ²								
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	45.33	29.01	0.00	None	16.32	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	7.37	7.37	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter			
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	37.97	0.00	None			
9.2 Internal Walls										
Description	Construction							Kappa (kJ/m ² K)	Area (m ²)	
Internal Wall 1	Plasterboard on timber frame							9.00	143.42	
10.1 Party Ceilings										
Description	Construction							Kappa (kJ/m ² K)	Area (m ²)	
Party Ceiling 1	Precast concrete planks floor, screed, carpeted							30.00	74.20	

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	74.20

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	4.75	0
Side W	Windows	External Wall 1	East	3.78	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	0

14.0 Conservatory

15.0 Draught Proofing

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.77	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	6.76	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	21.09	0.04	0.04	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.50	-0.09	-0.09 RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04 RCD	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	15.19	0.00	0.00	No
E5 Ground floor (normal)	Non Gov Approved Schemes	21.09	0.11	0.11 RCD	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	15.19	0.11	0.11 RCD	No

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Balanced mechanical ventilation with heat recovery"/>
MV Reference Number	<input type="text" value="500321"/>
Configuration	<input type="text" value="2"/>
Manufacturer SFP	<input type="text" value="0.76"/>
Duct Type	<input type="text" value="Rigid"/>
MVHR Efficiency	<input type="text" value="86.00"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>
MVHR System Location	<input type="text" value="Inside heated envelope (installed exclusively)"/>
Duct Installation Specification	<input type="text" value="Level 2"/>

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	
0.10	Through Wall Fan	0
	Other Wet Room	

Summary for Input Data

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 ₅₀	Yes
	4.00
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	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	
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

27.0 Secondary Heating

None

28.0 Water Heating

Water Heating	Main Heating 1
SAP Code	901

Summary for Input Data



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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	2B4P Flat MF	Issued on Date	25/07/2025							
Assessment Reference	001	Prop Type Ref	2B4P Flat MF							
Property	2B4P Flat MF									
SAP Rating	85 B	DER	10.90							
Environmental	91 B	% DER < TER								
CO ₂ Emissions (t/year)	0.74	DFEE	22.70							
Compliance Check	See BREL	% DFEE < TFEE								
% DPER < TPER	-7.50	DPER	60.37							
TPER	56.16									
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	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 ² K								
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
	Ground floor: 21.08 m	Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	1st Storey: 29.98 m		74.20 m ² 54.17 m ²	2.50 m 2.70 m						
8.0 Living Area	28.52	m ²								
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K) 0.18	Kappa (kJ/m ² K) 110.00	Gross Area(m ²) 45.33	Nett Area (m ²) 29.01	Shelter Res 0.00	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	45.33	29.01	0.00	None	16.32	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	7.37	7.37	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K) 0.00	Kappa (kJ/m ² K) 20.00	Area (m ²) 37.97	Shelter Res 0.00	Shelter	Shelter		
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	37.97	0.00	None	Shelter		
9.2 Internal Walls										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Internal Wall 1	Plasterboard on timber frame				9.00	143.42				
10.1 Party Ceilings										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Party Ceiling 1	Precast concrete planks floor, screed, carpeted				30.00	74.20				

Summary for Input Data

11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	74.20

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	4.75	0
Side W	Windows	External Wall 1	East	3.78	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	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)	Non Gov Approved Schemes	7.77	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	6.76	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.93	0.35	0.35	TBC
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	36.25	0.04	0.04	
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.50	-0.09	-0.09	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	30.38	0.00	0.00	

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Balanced mechanical ventilation with heat recovery
MV Reference Number	500321
Configuration	2
Manufacturer SFP	0.76
Duct Type	Rigid
MVHR Efficiency	86.00
Wet Rooms	2
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)
Duct Installation Specification	Level 2

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	

Summary for Input Data

0.10 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 ₅₀	4.00	m ³ /(h.m ²) @ 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	Manufacturer
Database Ref. No.	100.00
Fuel Type	0
SAP Code	Mains gas
In Winter	104
In Summer	88.90
Model Name	80.30
Manufacturer	Gas
Controls SAP Code	Gas
Delayed Start Stat	2110
Burner Control	Yes
HETAS approved System	Modulating
Flue Type	No
Fan Assisted Flue	Balanced
Is MHS Pumped	Yes
Heating Pump Age	Pump in heated space
Heat Emitter	2013 or later
Flow Temperature	Radiators
Flow Temperature Value	Enter value
Boiler Interlock	55.00
Combi boiler type	Yes

25.0 Main Heating 2

None

26.0 Heat Networks

None

27.0 Secondary Heating

None

28.0 Water Heating

Summary for Input Data

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
Immersion Heater	Single
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
Bathroom	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
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

34.0 Small-scale Hydro

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

Summary for Input Data



None

Summary for Input Data



Property Reference	2B4P Flat TF	Issued on Date	25/07/2025							
Assessment Reference	001	Prop Type Ref	2B4P Flat TF							
Property	2B4P Flat TF									
SAP Rating	84 B	DER	12.39							
Environmental	90 B	% DER < TER								
CO ₂ Emissions (t/year)	0.83	DFEE	29.96							
Compliance Check	See BREL	% DFEE < TFEE								
% DPER < TPER	-5.74	DPER	68.37							
TPER	12.22									
% DPER < TPER	-1.39									
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	4									
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 ² K								
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
	Ground floor: 21.08 m	Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	1st Storey: 29.98 m		74.20 m ² 54.17 m ²	2.50 m 2.70 m						
8.0 Living Area	28.52	m ²								
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K) 0.18	Kappa (kJ/m ² K) 110.00	Gross Area(m ²) 45.33	Nett Area (m ²) 29.01	Shelter Res 0.00	Shelter	Openings 16.32	Area Calculation Type Enter Gross Area
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	45.33	29.01	0.00	None	16.32	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	7.37	7.37	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K) 0.00	Kappa (kJ/m ² K) 20.00	Area (m ²) 37.97	Shelter Res 0.00	Shelter	Shelter		
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	37.97	0.00	None	None		
9.2 Internal Walls										
Description	Construction				Kappa (kJ/m ² K) 9.00	Area (m ²) 143.42				
Internal Wall 1	Plasterboard on timber frame				9.00	143.42				
10.0 External Roofs										
Description	Type	Construction	U-Value (W/m ² K) 0.00	Kappa (kJ/m ² K) 0.00	Gross Area(m ²) 0.00	Nett Area (m ²) 0.00	Shelter Code 0.00	Shelter Factor 0.00	Calculation Type Enter Gross Area	

Summary for Input Data

External Roof 1	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	74.20	74.20	None	0.00	Enter Gross Area	0.00
11.1 Party Floors										
Description	Storey Index	Construction					Kappa (kJ/m ² K)		Area (m ²)	
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted					30.00		74.20	
12.0 Opening Types										
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)	
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20	
13.0 Openings										
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch					
Front D	Entrance Door	External Wall 1	North	2.12	0					
Bottom W	Windows	External Wall 1	South	4.75	0					
Side W	Windows	External Wall 1	East	3.78	0					
Balcony Door	Patio Doors	External Wall 1	South	5.67	0					
14.0 Conservatory										
		None								
15.0 Draught Proofing										
		100								%
16.0 Draught Lobby										
		No								
17.0 Thermal Bridging										
17.1 List of Bridges										
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported					
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.77	0.05	0.05	HiTherm	No				
E3 Sill	Non Gov Approved Schemes	6.76	0.02	0.02	RCD	No				
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD	No				
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD	No				
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.93	0.35	0.35	TBC	No				
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	21.09	0.04	0.04		No				
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.50	-0.09	-0.09	RCD	No				
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD	No				
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD	No				
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	15.19	0.00	0.00		No				
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	15.19	0.10	0.10	RCD	No				
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	5.93	0.07	0.07	RCD	No				
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	15.16	0.04	0.04	RCD	No				
Description	To be calculated									
19.0 Mechanical Ventilation										
Mechanical Ventilation										
Mechanical Ventilation System Present	Yes									
Approved Installation	Yes									
Mechanical Ventilation data Type	Database									
Type	Balanced mechanical ventilation with heat recovery									
MV Reference Number	500321									
Configuration	2									
Manufacturer SFP	0.76									
Duct Type	Rigid									
MVHR Efficiency	86.00									
Wet Rooms	2									
SFP from Installer Commissioning Certificate	No									
MVHR System Location	Inside heated envelope (installed exclusively)									
Duct Installation Specification	Level 2									
19.1 Mechanical extract ventilation - Decentralised										
SFP	Fan/Room Type	Count								
0.13	In Room Fan	1								
0.11	Kitchen									
	In Room Fan Other	1								
	Wet Room									

Summary for Input Data

0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	
0.10	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 ₅₀	Yes	
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

No Fixed Lighting	No				
	Name Lighting 1	Efficacy 75.00	Power 10.00	Capacity 750.00	Count 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	
Flow Temperature	Enter value	
Flow Temperature Value	45.00	
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										
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										
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										
Immersion Heater	Single										
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										
Bathroom	Combi boiler or unvented hot water system										
	Flow Rate [l/min]										
	8.00										
	Rated Power [kW]										
	No										
	Connected To Instantaneous System 1										
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	Yes										
Insulation Thickness Type	Measured Loss										
Insulation Thickness	Other										
Insulation Thickness	15										
Cylinder Volume	180.00										
Loss	0.84										
Pipes insulation	L										
In Airing Cupboard	kWh/day										
	Fully insulated primary pipework										
	No										
31.0 Thermal Store											
Thermal Store Pipework	None										
	within a single casing										
32.0 Photovoltaic Unit											
Export Capable Meter?	Multiple Dwellings – Not Connected										
Connected To Dwelling	Yes										
Diverter	No										
Battery Capacity [kWh]	No										
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer			
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00					
34.0 Small-scale Hydro											
Electricity Generated	None										
Apportioned	0.00										
Connected to dwelling's electricity meter	0.00						kWh/Year				
Electricity Generation	Yes										
	Annual										
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Summary for Input Data



Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	Affordable SD	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Affordable SD
Property	Affordable SD		
SAP Rating	84 B	DER	15.38
Environmental	87 B	% DER < TER	-31.90
CO ₂ Emissions (t/year)	1.13	DFEE	36.24
Compliance Check	See BREL	% DFEE < TFEE	0.27
% DPER < TPER	-41.05	DPER	85.80
TPER	11.66	TPER	60.83

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	Rural	
1.0 Property Type	House, Semi-Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		18.15 m	39.66 m ²	2.50 m
1st Storey:		18.15 m	39.66 m ²	2.70 m

8.0 Living Area	20.82	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	94.37	71.63	0.00	None	22.74	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	38.15	0.00	None

Description	Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions	Plasterboard on timber frame	9.00	151.45

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	39.66	39.66	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
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Summary for Input Data



Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	39.66						
11.0 Heat Loss Floors									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m ² K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m ² K) 75.00						
			Area (m ²) 39.66						
11.2 Internal Floors									
Description	Storey Index	Construction	Kappa (kJ/m ² K) Area (m ²)						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 39.66						
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	5.95	0				
Rear Windows	Windows	External Wall	South	3.33	0				
Patio Doors	Bi-Fold/Patio Door	External Wall	South	11.34	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)	Non Gov Approved Schemes	12.08	0.05	0.05	HiTherm	No			
E3 Sill	Non Gov Approved Schemes	6.78	0.02	0.02	RCD	No			
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD	No			
E5 Ground floor (normal)	Non Gov Approved Schemes	18.15	0.11	0.11	RCD	No			
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	10.81	0.07	0.07	RCD	No			
E16 Corner (normal)	Non Gov Approved Schemes	10.40	0.05	0.05	RCD	No			
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	18.15	0.00	0.00	RCD	No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.34	0.10	0.10	RCD	No			
E18 Party wall between dwellings	Non Gov Approved Schemes	10.40	0.04	0.04	RCD	No			
P1 Party wall - Ground floor	Non Gov Approved Schemes	7.34	0.11	0.11	RCD	No			
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	7.34	0.00	0.00		No			
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	7.34	0.10	0.10	RCD	No			
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	3								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	2							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								

Summary for Input Data

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 ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

No Fixed Lighting	No				
	Name	Efficacy	Power	Capacity	Count
	Pendant light	75.00	10.00	750.00	10
	Batten light	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

27.0 Secondary Heating

None

28.0 Water Heating

Water Heating	Main Heating 1
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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
Hot Water Controls Model	HIU

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	9.30	Yes	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
Insulation Thickness Type	50 mm
Insulation Thickness	50
Cylinder Volume	250.00
Loss	1.40
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

Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	Bindon DET	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Bindon DET
Property	Bindon DET		
SAP Rating	86 B	DER	12.62
Environmental	87 B	% DER < TER	-23.36
CO ₂ Emissions (t/year)	1.7	DFEE	38.09
Compliance Check	See BREL	% DFEE < TFEE	38.91
% DPER < TPER	-31.26	DPER	70.22
TPER	53.50		

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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	0.00	kJ/m ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		29.33 m	48.65 m ²	2.50 m
1st Storey:		29.33 m	48.65 m ²	2.70 m
2nd Storey:		29.33 m	48.65 m ²	2.70 m

8.0 Living Area	27.14	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	231.65	203.78	0.00	None	27.87	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	259.94

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Shelter Factor	Calculation Type	Openings
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	48.65	48.65	None	0.00	Enter Gross Area	0.00	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m ²)		
Internal Ceiling 1		Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	97.30		

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	48.65

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	97.30

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	6.36	0
Rear Windows	Windows	External Wall	South	6.82	0
Front Patio Doors	Bi-Fold/Patio Door	External Wall	North	5.96	0
Rear Patio Doors	Bi-Fold/Patio Door	External Wall	South	6.60	0

14.0 Conservatory

None

15.0 Draught Proofing

100

%

16.0 Draught Lobby

No

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	14.34	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	4.32	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	42.04	0.02	0.02	RCD
E5 Ground floor (normal)	Non Gov Approved Schemes	29.33	0.11	0.11	RCD
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	19.19	0.07	0.07	RCD
E16 Corner (normal)	Non Gov Approved Schemes	31.60	0.05	0.05	RCD
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	58.66	0.00	0.00	RCD
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	10.13	0.10	0.10	RCD

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

Yes

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500776

Configuration

1

Manufacturer SFP

0.14

Duct Type

Rigid

Wet Rooms

4

SFP from Installer Commissioning Certificate

No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	3
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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															
21.0 Fixed Cooling System																
22.0 Pressure Testing	Yes															
Designed AP ₅₀	4.00															
Property Tested?	Yes															
Test Method	Blower Door															
22.0 Lighting																
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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	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																
26.0 Heat Networks																
27.0 Secondary Heating																
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															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	Farleigh DET	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Farleigh DET
Property	Farleigh DET		
SAP Rating	84 B	DER	14.84
Environmental	86 B	% DER < TER	-31.33
CO ₂ Emissions (t/year)	1.4	DFEE	40.15
Compliance Check	See BREL	% DFEE < TFEE	1.88
% DPER < TPER	-39.88	DPER	82.56
TPER	59.02		

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		29.76 m	50.76 m ²	2.50 m
1st Storey:		29.76 m	50.76 m ²	2.70 m

8.0 Living Area	37.53	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	154.73	128.17	0.00	None	26.56	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	201.71

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Shelter Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	50.76	50.76	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	50.76

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	50.76

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	50.76

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	5.95	0
Rear Windows	Windows	External Wall	South	4.28	0
Patio Doors	Bi-Fold/Patio Door	External Wall	South	11.34	0
Side Windows	Windows	External Wall	East	2.87	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)	Non Gov Approved Schemes	14.81	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	8.61	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	33.60	0.02	0.02 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	29.76	0.11	0.11 RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	19.16	0.07	0.07 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	20.80	0.05	0.05 RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	29.76	0.00	0.00 RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	10.59	0.10	0.10 RCD	No

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

Yes

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500776

Configuration

1

Manufacturer SFP

0.14

Duct Type

Rigid

Wet Rooms

4

SFP from Installer Commissioning Certificate

No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	3
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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/>																
21.0 Fixed Cooling System	No															
<hr/>																
22.0 Pressure Testing	Yes															
Designed AP ₅₀	4.00															
Property Tested?	Yes															
Test Method	Blower Door															
<hr/>																
22.0 Lighting	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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	75.00	10.00	750.00	10												
<hr/>																
24.0 Main Heating 1	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/>																
25.0 Main Heating 2	None															
<hr/>																
26.0 Heat Networks	None															
<hr/>																
27.0 Secondary Heating	None															
<hr/>																
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															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	Farleigh SD	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Farleigh SD
Property	Farleigh SD		
SAP Rating	85 B	DER	13.94
Environmental	87 B	% DER < TER	-33.91
CO ₂ Emissions (t/year)	1.3	DFEE	36.06
Compliance Check	See BREL	% DFEE < TFEE	36.47
% DPER < TPER	-43.24	DPER	77.69
TPER	54.24		

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	Rural	
1.0 Property Type	House, Semi-Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:	20.16 m		50.86 m ²	2.50 m
1st Storey:	20.16 m		50.86 m ²	2.70 m

8.0 Living Area	37.44	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	104.94	78.38	0.00	None	26.56	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	49.84	0.00	None

Description	Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions	Plasterboard on timber frame	9.00	201.07

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	50.86	50.86	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
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Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	50.86						
11.0 Heat Loss Floors									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m ² K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m ² K) 75.00						
			Area (m ²) 50.86						
11.2 Internal Floors									
Description	Storey Index	Construction	Kappa (kJ/m ² K) Area (m ²)						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 50.86						
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	5.95	0				
Rear Windows	Windows	External Wall	South	4.28	0				
Patio Doors	Bi-Fold/Patio Door	External Wall	South	11.34	0				
Side Windows	Windows	External Wall	East	2.87	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)	Non Gov Approved Schemes	14.81	0.05	0.05	HiTherm	No			
E3 Sill	Non Gov Approved Schemes	8.61	0.02	0.02	RCD	No			
E4 Jamb	Non Gov Approved Schemes	33.60	0.02	0.02	RCD	No			
E5 Ground floor (normal)	Non Gov Approved Schemes	20.16	0.11	0.11	RCD	No			
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.59	0.07	0.07	RCD	No			
E16 Corner (normal)	Non Gov Approved Schemes	10.40	0.05	0.05	RCD	No			
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	20.16	0.00	0.00	RCD	No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	10.61	0.10	0.10	RCD	No			
E18 Party wall between dwellings	Non Gov Approved Schemes	10.40	0.04	0.04	RCD	No			
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.58	0.11	0.11	RCD	No			
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.58	0.00	0.00		No			
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.58	0.10	0.10	RCD	No			
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								

Summary for Input Data

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 ₅₀	Yes
	4.00
Property Tested?	Yes
Test Method	Blower Door

22.0 Lighting

No Fixed Lighting

Name	Efficacy	Power	Capacity	Count
Pendant light	75.00	10.00	750.00	10
Batten light	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

27.0 Secondary Heating

None

28.0 Water Heating

Water Heating	Main Heating 1
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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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	Haddington DET		Issued on Date	25/07/2025
Assessment Reference	001		Prop Type Ref	Haddington DET
Property	Haddington DET			
SAP Rating	84 B	DER	14.38	TER
Environmental	87 B	% DER < TER		-31.81
CO ₂ Emissions (t/year)	1.43	DFEE	39.07	TFEE
Compliance Check	See BREL	% DFEE < TFEE		2.62
% DPER < TPER	-40.44	DPER	80.02	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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		29.80 m	53.69 m ²	2.50 m
1st Storey:		29.80 m	53.69 m ²	2.70 m

8.0 Living Area	40.12	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	154.97	131.27	0.00	None	23.70	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	202.96

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Shelter Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	53.69	53.69	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	53.69

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	53.69

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	53.69

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	5.62	0
Rear Windows	Windows	External Wall	South	8.34	0
Patio Doors	Bi-Fold/Patio Door	External Wall	South	3.80	0
Right Side Windows	Windows	External Wall	East	2.87	0
Left Side Windows	Windows	External Wall	West	0.96	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)	Non Gov Approved Schemes	13.78	0.05	HiTherm	No	
E3 Sill	Non Gov Approved Schemes	6.88	0.02	0.02	RCD	No
E4 Jamb	Non Gov Approved Schemes	37.82	0.02	0.02	RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	29.80	0.11	0.11	RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	17.60	0.07	0.07	RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	20.80	0.05	0.05	RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	29.80	0.00	0.00	RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	12.19	0.10	0.10	RCD	No

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500776
Configuration	1
Manufacturer SFP	0.14
Duct Type	Rigid
Wet Rooms	4
SFP from Installer Commissioning Certificate	No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	3
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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															
21.0 Fixed Cooling System																
22.0 Pressure Testing	Yes															
Designed AP ₅₀	4.00															
Property Tested?	Yes															
Test Method	Blower Door															
22.0 Lighting																
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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	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																
26.0 Heat Networks																
27.0 Secondary Heating																
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															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	Kings DET			Issued on Date	25/07/2025
Assessment Reference	001			Prop Type Ref	Kings DET
Property	Kings DET				
SAP Rating	84 B	DER	15.58	TER	12.00
Environmental	86 B	% DER < TER			-29.83
CO ₂ Emissions (t/year)	1.4	DFEE	42.56	TFEE	43.51
Compliance Check	See BREL	% DFEE < TFEE			2.20
% DPER < TPER	-37.94	DPER	86.56	TPER	62.75

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		28.95 m	49.13 m ²	2.50 m
1st Storey:		28.95 m	49.13 m ²	2.70 m

8.0 Living Area	17.16	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	150.38	123.83	0.00	None	26.55	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	153.05
Block Partitions		Dense block, plasterboard on dabs	75.00	54.23

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	49.13	49.13	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	49.13

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	49.13

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	49.13

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	11.89	0
Rear Windows	Windows	External Wall	South	2.87	0
Patio Doors	Bi-Fold/Patio Door	External Wall	West	3.80	0
Right Side Windows	Windows	External Wall	East	4.78	0
Left Side Windows	Windows	External Wall	West	1.09	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)	Non Gov Approved Schemes	18.25	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	8.63	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	47.70	0.02	0.02 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	28.95	0.11	0.11 RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	18.08	0.07	0.07 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	20.80	0.05	0.05 RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	28.95	0.00	0.00 RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	10.87	0.10	0.10 RCD	No

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

Yes

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500776

Configuration

1

Manufacturer SFP

0.14

Duct Type

Rigid

Wet Rooms

4

SFP from Installer Commissioning Certificate

No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	3
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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															
21.0 Fixed Cooling System	No															
22.0 Pressure Testing	Yes															
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa														
Property Tested?	Yes															
Test Method	Blower Door															
22.0 Lighting																
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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	75.00	10.00	750.00	10												
24.0 Main Heating 1	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															
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															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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	
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	Purbeck SD	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Purbeck SD
Property	Purbeck SD		
SAP Rating	84 B	DER	15.38
Environmental	87 B	% DER < TER	-31.68
CO ₂ Emissions (t/year)	1.15	DFEE	36.55
Compliance Check	See BREL	% DFEE < TFEE	0.43
% DPER < TPER	-40.72	DPER	85.75
		TPER	60.94

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	Rural	
1.0 Property Type	House, Semi-Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		18.26 m	40.46 m ²	2.50 m
1st Storey:		18.26 m	40.46 m ²	2.70 m

8.0 Living Area	30.79	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	94.97	72.23	0.00	None	22.74	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	39.32	0.00	None

Description	Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions	Plasterboard on timber frame	9.00	159.27

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	40.46	40.46	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
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Summary for Input Data



Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	40.46						
11.0 Heat Loss Floors									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m ² K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m ² K) 75.00						
			Area (m ²) 40.46						
11.2 Internal Floors									
Description	Storey Index	Construction	Kappa (kJ/m ² K) Area (m ²)						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 40.46						
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	5.95	0				
Rear Windows	Windows	External Wall	South	3.33	0				
Patio Doors	Bi-Fold/Patio Door	External Wall	South	11.34	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)	Non Gov Approved Schemes	12.08	0.05	0.05	HiTherm	No			
E3 Sill	Non Gov Approved Schemes	6.78	0.02	0.02	RCD	No			
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD	No			
E5 Ground floor (normal)	Non Gov Approved Schemes	18.26	0.11	0.11	RCD	No			
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	10.70	0.07	0.07	RCD	No			
E16 Corner (normal)	Non Gov Approved Schemes	10.40	0.05	0.05	RCD	No			
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	18.26	0.00	0.00	RCD	No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.56	0.10	0.10	RCD	No			
E18 Party wall between dwellings	Non Gov Approved Schemes	10.40	0.04	0.04	RCD	No			
P1 Party wall - Ground floor	Non Gov Approved Schemes	7.56	0.11	0.11	RCD	No			
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	7.56	0.00	0.00		No			
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	7.56	0.10	0.10	RCD	No			
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								

Summary for Input Data

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 ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

No Fixed Lighting	No				
	Name	Efficacy	Power	Capacity	Count
	Pendant light	75.00	10.00	750.00	10
	Batten light	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

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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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

Summary for Input Data



Property Reference	Wainwright DET			Issued on Date	25/07/2025
Assessment Reference	001			Prop Type Ref	Wainwright DET
Property	Wainwright DET				
SAP Rating	86 B	DER	12.88	TER	9.40
Environmental	87 B	% DER < TER			-37.02
CO ₂ Emissions (t/year)	1.7	DFEE	39.15	TFEE	39.76
Compliance Check	See BREL	% DFEE < TFEE			1.54
% DPER < TPER	-45.75	DPER	71.61	TPER	49.13

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		35.49 m	72.19 m ²	2.50 m
1st Storey:		35.49 m	72.19 m ²	2.70 m

8.0 Living Area	20.05	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	184.43	150.17	0.00	None	34.26	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	255.10
Block Partitions		Dense block, plasterboard on dabs	75.00	44.56

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	72.19	72.19	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)		
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	72.19		

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	72.19

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	72.19

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	10.98	0
Rear Windows	Windows	External Wall	South	9.54	0
Front Patio Doors	Bi-Fold/Patio Door	External Wall	North	3.80	0
Rear Patio Doors	Bi-Fold/Patio Door	External Wall	South	5.69	0
Side Door	Half Glazed Entrance Door	External Wall	West	2.12	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)	Non Gov Approved Schemes	19.48	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	8.64	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	48.32	0.02	0.02 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	35.49	0.11	0.11 RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	16.56	0.07	0.07 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	26.00	0.05	0.05 RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	35.49	0.00	0.00 RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	18.88	0.10	0.10 RCD	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.20	-0.09	-0.09 RCD	No

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

Yes

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500776

Configuration

1

Manufacturer SFP

0.14

Duct Type

Rigid

Wet Rooms

5

SFP from Installer Commissioning Certificate

No

19.1 Mechanical extract ventilation - Decentralised

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

20.0 Fans, Open Fireplaces, Flues

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															
21.0 Fixed Cooling System	No															
22.0 Pressure Testing	Yes															
Designed AP ₅₀	4.00															
Property Tested?	Yes															
Test Method	Blower Door															
22.0 Lighting																
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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	75.00	10.00	750.00	10												
24.0 Main Heating 1	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															
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															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
Cylinder Volume	250.00
Loss	1.40
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	Walbury DET	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Walbury DET
Property	Walbury DET		
SAP Rating	85 B	DER	13.71
Environmental	87 B	% DER < TER	-22.52
CO ₂ Emissions (t/year)	1.54	DFEE	39.14
Compliance Check	See BREL	% DFEE < TFEE	1.68
% DPER < TPER	-30.12	DPER	76.25
TPER	58.60		

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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	0.00	kJ/m ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		26.21 m	41.10 m ²	2.50 m
1st Storey:		26.21 m	41.10 m ²	2.70 m
2nd Storey:		25.63 m	38.82 m ²	2.50 m

8.0 Living Area	27.01	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	200.25	173.70	0.00	None	26.55	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	251.67

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	28.26	28.26	None	0.00	Enter Gross Area	0.00
Sloping Ceiling	External Slope Roof	Plasterboard, insulated slope	0.13	9.00	14.67	14.67	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	82.20

11.0 Heat Loss Floors

Summary for Input Data

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)	
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	41.10	
11.2 Internal Floors									
Description	Storey Index	Construction					Kappa (kJ/m ² K)	Area (m ²)	
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor					9.00	82.20	
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	11.15	0				
Rear Windows	Windows	External Wall	South	6.66	0				
Rear Patio Doors	Bi-Fold/Patio Door	External Wall	South	5.67	0				
Side Windows	Windows	External Wall	West	0.96	0				
14.0 Conservatory									
		None							
15.0 Draught Proofing									
		100					%		
16.0 Draught Lobby									
		No							
17.0 Thermal Bridging									
17.1 List of Bridges									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	13.89	0.05	0.05	HiTherm	No			
E3 Sill	Non Gov Approved Schemes	2.50	0.02	0.02	RCD	No			
E4 Jamb	Non Gov Approved Schemes	37.80	0.02	0.02	RCD	No			
E5 Ground floor (normal)	Non Gov Approved Schemes	26.21	0.11	0.11	RCD	No			
E16 Corner (normal)	Non Gov Approved Schemes	30.80	0.05	0.05	RCD	No			
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	51.84	0.00	0.00	RCD	No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.18	0.10	0.10	RCD	No			
E11 Eaves (insulation at rafter level)	Non Gov Approved Schemes	15.80	0.02	0.02	RCD	No			
E13 Gable (insulation at rafter level)	Non Gov Approved Schemes	3.68	0.05	0.05	RCD	No			
R6 Flat ceiling	Table K1 - Default	15.80	0.12	0.12		No			
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								
20.0 Fans, Open Fireplaces, Flues									
Number of open chimneys	0								

Summary for Input Data

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	Yes															
Designed AP ₅₀	4.00															
Property Tested?	Yes															
Test Method	Blower Door															
22.0 Lighting																
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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	75.00	10.00	750.00	10												
24.0 Main Heating 1	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															
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															
SAP Code	901															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	Walbury SD	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Walbury SD
Property	Walbury SD		
SAP Rating	86 B	DER	12.88
Environmental	88 B	% DER < TER	-24.69
CO ₂ Emissions (t/year)	1.44	DFEE	35.27
Compliance Check	See BREL	% DFEE < TFEE	35.72
% DPER < TPER	-33.03	DPER	71.77
TPER	53.95		

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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	0.00	kJ/m ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		18.30 m	41.10 m ²	2.50 m
1st Storey:		18.30 m	41.10 m ²	2.70 m
2nd Storey:		17.73 m	38.82 m ²	2.50 m

8.0 Living Area	27.01	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	139.39	112.84	0.00	None	26.55	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	251.88

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	28.26	28.26	None	0.00	Enter Gross Area	0.00
Sloping Ceiling	External Slope Roof	Plasterboard, insulated slope	0.13	9.00	14.67	14.67	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	82.20

11.0 Heat Loss Floors

Summary for Input Data

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)	
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	41.10	
11.2 Internal Floors									
Description	Storey Index	Construction					Kappa (kJ/m ² K)	Area (m ²)	
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor					9.00	82.20	
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	11.15	0				
Rear Windows	Windows	External Wall	South	6.66	0				
Rear Patio Doors	Bi-Fold/Patio Door	External Wall	South	5.67	0				
Side Windows	Windows	External Wall	West	0.96	0				
14.0 Conservatory									
		None							
15.0 Draught Proofing									
		100					%		
16.0 Draught Lobby									
		No							
17.0 Thermal Bridging									
17.1 List of Bridges									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	13.89	0.05	0.05	HiTherm			No	
E3 Sill	Non Gov Approved Schemes	2.50	0.02	0.02	RCD			No	
E4 Jamb	Non Gov Approved Schemes	37.80	0.02	0.02	RCD			No	
E5 Ground floor (normal)	Non Gov Approved Schemes	18.30	0.11	0.11	RCD			No	
E16 Corner (normal)	Non Gov Approved Schemes	15.40	0.05	0.05	RCD			No	
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	36.60	0.00	0.00	RCD			No	
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.18	0.10	0.10	RCD			No	
E11 Eaves (insulation at rafter level)	Non Gov Approved Schemes	7.90	0.02	0.02	RCD			No	
E13 Gable (insulation at rafter level)	Non Gov Approved Schemes	3.68	0.05	0.05	RCD			No	
R6 Flat ceiling	Table K1 - Default	15.80	0.12	0.12				No	
E18 Party wall between dwellings	Non Gov Approved Schemes	15.40	0.04	0.04	RCD			No	
P1 Party wall - Ground floor	Non Gov Approved Schemes	7.90	0.11	0.11	RCD			No	
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	15.80	0.00	0.00				No	
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	7.90	0.10	0.10	RCD			No	
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								

Summary for Input Data

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 ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

No Fixed Lighting	No				
	Name	Efficacy	Power	Capacity	Count
	Pendant light	75.00	10.00	750.00	10
	Batten light	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

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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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

12.7. APPENDIX G: SAMPLE SAP SUMMARY INFORMATION SHEETS (BE GREEN)

Summary for Input Data



Property Reference	1B2F Flat TF	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	1B2F Flat TF
Property	1B2F Flat TF		
SAP Rating	84 B	DER	3.10
Environmental	98 A	% DER < TER	79.84
CO ₂ Emissions (t/year)	0.13	DFEE	38.86
Compliance Check	See BREL	% DFEE < TFEE	-1.87
% DPER < TPER	55.71	DPER	36.29
		TPER	81.94

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	4	
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 ² 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:	19.50 m	1st Storey:	52.69 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	23.22	m ²
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9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	42.42	27.51	0.00	None	14.91	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	6.33	6.33	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	28.25	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	94.40

10.0 External Roofs		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calulation	Openings Type
Description	Type									

Summary for Input Data

External Roof 1	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	52.69	52.69	None	0.00	Enter Gross Area	0.00
11.0 Heat Loss Floors										
Description	Type	Storey Index	Construction		U-Value (W/m ² K)	0.12	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Exposed Floor 1	Exposed Floor - Solid	Lowest occupied	Other				None	0.00	75.00	52.69
12.0 Opening Types										
Description	Data Source	Type	Glazing		Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1				0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1				0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1				0.63			1.20
13.0 Openings										
Name	Opening Type	Location	Orientation		Area (m ²)		Pitch			
Front D	Entrance Door	External Wall 1	North		2.12		0			
Bottom W	Windows	External Wall 1	South		2.37		0			
Side W	Windows	External Wall 1	West		4.75		0			
Balcony Door	Patio Doors	External Wall 1	South		5.67		0			
14.0 Conservatory										
		None								
15.0 Draught Proofing										
		100					%			
16.0 Draught Lobby										
		No								
17.0 Thermal Bridging										
17.1 List of Bridges										
Bridge Type	Source Type	Length	Psi	Adjusted Reference:			Imported			
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.10	0.05	0.05	HiTherm		No			
E3 Sill	Non Gov Approved Schemes	6.09	0.02	0.02	RCD		No			
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD		No			
E16 Corner (normal)	Non Gov Approved Schemes	7.50	0.05	0.05	RCD		No			
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.31	0.35	0.35	TBC		No			
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	14.20	0.04	0.04			No			
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.09	-0.09	RCD		No			
E18 Party wall between dwellings	Non Gov Approved Schemes	2.50	0.04	0.04	RCD		No			
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	7.50	0.03	0.03	RCD		No			
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	11.29	0.00	0.00			No			
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	8.47	0.07	0.07	RCD		No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	11.03	0.04	0.04	RCD		No			
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	11.29	0.10	0.10	RCD		No			
Description	To be calculated									
19.0 Mechanical Ventilation										
Mechanical Ventilation										
Mechanical Ventilation System Present	Yes									
Approved Installation	Yes									
Mechanical Ventilation data Type	Database									
Type	Balanced mechanical ventilation with heat recovery									
MV Reference Number	500321									
Configuration	2									
Manufacturer SFP	0.76									
Duct Type	Rigid									
MVHR Efficiency	86.00									
Wet Rooms	2									
SFP from Installer Commissioning Certificate	No									
MVHR System Location	Inside heated envelope (installed exclusively)									
Duct Installation Specification	Level 2									
19.1 Mechanical extract ventilation - Decentralised										
SFP	Fan/Room Type	Count								
0.13	In Room Fan	1								
	Kitchen									
0.11	In Room Fan Other	1								
	Wet Room									

Summary for Input Data

0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	
0.10	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 ₅₀	Yes	
	4.00	m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

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

24.0 Main Heating 1

Percentage of Heat	Database	%
Database Ref. No.	100.00	
Fuel Type	100834	
SAP Code	Electricity	
Model Name	0	
Manufacturer	Compact P	
Controls SAP Code	Nilan AS	
Delayed Start Stat	2506	
Burner Control	Yes	
HETAS approved System	Modulating	
Is MHS Pumped	No	
Heating Pump Age	Pump in heated space	
Heat Emitter	2013 or later	
Flow Temperature	Radiators	
Flow Temperature Value	Enter value	
	45.00	

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
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
Immersion Heater	Single
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
Bathroom	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	Internal Store
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00
Orientation	Horizontal
Elevation	Horizontal
Overshading	None Or Little
FGHRS	No
MCS Certificate	No
Overshading Factor	1.00
MCS Certificate Reference	
Panel Manufacturer	

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	1B2P Flat EF Corner (EC)			Issued on Date	25/07/2025					
Assessment Reference	001	Prop Type Ref	1B2P Flat EF Corner (EC)							
Property	1B2P Flat EF Corner (EC)									
SAP Rating	79 C	DER	3.95	TER	15.17					
Environmental	97 A	% DER < TER			73.96					
CO ₂ Emissions (t/year)	0.18	DFEE	35.19	TFEE	38.28					
Compliance Check	See BREL	% DFEE < TFEE			8.08					
% DPER < TPER	43.05	DPER	45.99	TPER	80.76					
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, End-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	210.45 kJ/m ² 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:	19.29 m 29.98 m	54.47 m ² 54.17 m ²	2.50 m 2.70 m						
8.0 Living Area	25.44 m ²									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	43.97	30.43	0.00	None	13.54	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	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter			
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None			
9.2 Internal Walls										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Internal Wall 1	Plasterboard on timber frame				9.00	119.81				
10.1 Party Ceilings										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Party Ceiling 1	Precast concrete planks floor, screed, carpeted				30.00	54.47				

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Exposed Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	54.47

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	0
Bottom W	Windows	External Wall 1	South	5.94	0

14.0 Conservatory

15.0 Draught Proofing

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.46	0.05	0.05 HiTherm	No
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.29	0.04	0.04 RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	10.81	0.00	0.00	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03 RCD	No
E20 Exposed floor (normal)	Non Gov Approved Schemes	19.29	0.00	0.00	No
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	10.81	0.48	0.48	No

Y-value

W/m²K

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Mechanical extract ventilation - decentralised"/>
MV Reference Number	<input type="text" value="500776"/>
Configuration	<input type="text" value="1"/>
Manufacturer SFP	<input type="text" value="0.14"/>
Duct Type	<input type="text" value="Rigid"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>

19.1 Mechanical extract ventilation - Decentralised

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

20.0 Fans, Open Fireplaces, Flues

Number of open chimneys

Number of open flues

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								
21.0 Fixed Cooling System	No								
22.0 Pressure Testing	Yes								
Designed AP ₅₀	4.00								
Property Tested?	Yes								
Test Method	Blower Door								
22.0 Lighting									
No Fixed Lighting	No								
	Name Lighting 1	Efficacy 75.00	Power 10.00	Capacity 750.00	Count 25				
24.0 Main Heating 1	None								
25.0 Main Heating 2	None								
26.0 Heat Networks	Space and Water Combined								
Space Community Heating									
Distribution Loss	Formal Declaration by Property Developer								
Distribution Loss Value	1.50								
SAP Code	2306								
Heat Source	Fuel Type	Heating Use	Efficiency	Percentage Of Heat	Heat	Heat Power Ratio	Electrical	Fuel Factor	Efficiency type
Heat source 1	Heat pump	Electricity	Space and Water	300.00	100.00				
Heat source 2	None								
Heat source 3	None								
Heat source 4	None								
Heat source 5	None								
27.0 Secondary Heating	None								
28.0 Water Heating									
Water Heating	Community Heating								
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								
Immersion Heater	Single								
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				
Bathroom	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1				

Summary for Input Data

28.3 Waste Water Heat Recovery System

29.0 Hot Water Cylinder

Cylinder Stat	HIU
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	1.46
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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
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Recommendations

Lower cost measures

None

Further measures to achieve even higher standards

None

Summary for Input Data



Property Reference	1B2P Flat EF Mid (EC)			Issued on Date	25/07/2025																																	
Assessment Reference	001	Prop Type Ref	1B2P Flat EF Mid (EC)																																			
Property	1B2P Flat EF Mid (EC)																																					
SAP Rating	78 C	DER	4.32	TER	14.51																																	
Environmental	97 A	% DER < TER			70.23																																	
CO ₂ Emissions (t/year)	0.2	DFEE	39.37	TFEE	34.59																																	
Compliance Check	See BREL	% DFEE < TFEE			-13.81																																	
% DPER < TPER	35.59	DPER	49.81	TPER	77.34																																	
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	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 ² K																																					
7.0 Electricity Tariff	Standard																																					
Smart electricity meter fitted	Yes																																					
Smart gas meter fitted	Yes																																					
7.0 Measurements	<table border="1"> <tr> <th colspan="2"></th> <th>Heat Loss Perimeter</th> <th>Internal Floor Area</th> <th colspan="2">Average Storey Height</th> </tr> <tr> <td colspan="2">Ground floor:</td> <td>13.51 m</td> <td>54.22 m²</td> <td colspan="2">2.50 m</td> </tr> <tr> <td colspan="2">1st Storey:</td> <td>29.98 m</td> <td>54.17 m²</td> <td colspan="2">2.70 m</td> </tr> </table>							Heat Loss Perimeter	Internal Floor Area	Average Storey Height		Ground floor:		13.51 m	54.22 m ²	2.50 m		1st Storey:		29.98 m	54.17 m ²	2.70 m																
		Heat Loss Perimeter	Internal Floor Area	Average Storey Height																																		
Ground floor:		13.51 m	54.22 m ²	2.50 m																																		
1st Storey:		29.98 m	54.17 m ²	2.70 m																																		
8.0 Living Area	24.89 m ²																																					
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>16.39</td> <td>8.79</td> <td>0.00</td> <td>None</td> <td>7.60</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>17.38</td> <td>15.26</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>2.12</td> <td>Enter Gross Area</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	16.39	8.79	0.00	None	7.60	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	17.38	15.26	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type																												
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	16.39	8.79	0.00	None	7.60	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	17.38	15.26	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area																												
9.1 Party Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> </tr> </thead> <tbody> <tr> <td>Party Wall 1</td> <td>Filled Cavity with Edge Sealing</td> <td>Double plasterboard on both sides, twin timber frame with/without sheathing board</td> <td>0.00</td> <td>20.00</td> <td>41.76</td> <td>0.00</td> <td>None</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter	Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	41.76	0.00	None																	
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter																															
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	41.76	0.00	None																															
9.2 Internal Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Internal Wall 1</td> <td>Plasterboard on timber frame</td> <td>9.00</td> <td>119.00</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Internal Wall 1	Plasterboard on timber frame	9.00	119.00																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																			
Internal Wall 1	Plasterboard on timber frame	9.00	119.00																																			
10.1 Party Ceilings	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Party Ceiling 1</td> <td>Precast concrete planks floor, screed, carpeted</td> <td>30.00</td> <td>54.22</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	54.22																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																			
Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	54.22																																			

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m²K)	Shelter Code	Shelter Factor	Kappa (kJ/m²K)	Area (m²)
Exposed Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	54.22

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m²K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	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)	Non Gov Approved Schemes	4.63	0.05	0.05 HiTherm	No
E4 Jamb	Non Gov Approved Schemes	12.60	0.02	0.02 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	13.51	0.04	0.04	No
E18 Party wall between dwellings	Non Gov Approved Schemes	10.00	0.04	0.04 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	16.70	0.00	0.00	No
E20 Exposed floor (normal)	Table K1 - Default	13.51	0.32	0.32	No
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	16.70	0.48	0.48	No

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500776
Configuration	1
Manufacturer SFP	0.14
Duct Type	Rigid
Wet Rooms	2
SFP from Installer Commissioning Certificate	No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan	0
0.00	Kitchen	0
	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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										
21.0 Fixed Cooling System	No										
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
24.0 Main Heating 1	None										
25.0 Main Heating 2	None										
26.0 Heat Networks	Space and Water Combined										
Space Community Heating											
Distribution Loss	Formal Declaration by Property Developer										
Distribution Loss Value	1.50										
SAP Code	2306										
Heat Source	Fuel Type	Heating Use	Efficiency	Percentage Of Heat	Heat	Heat Power Ratio	Electrical	Fuel Factor	Efficiency type		
Heat source 1	Heat pump	Electricity	Space and Water	300.00	100.00						
Heat source 2	None										
Heat source 3	None										
Heat source 4	None										
Heat source 5	None										
27.0 Secondary Heating	None										
28.0 Water Heating											
Water Heating	Community Heating										
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										
Immersion Heater	Single										
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						
Bathroom	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	HIU										
Cylinder Stat	Yes										

Summary for Input Data

Cylinder In Heated Space	Yes										
Independent Time Control	Yes										
Insulation Type	Measured Loss										
Insulation Thickness Type	Other										
Insulation Thickness	15										
Cylinder Volume	180.00										
Loss	1.46										
Pipes insulation	Fully insulated primary pipework										
In Airing Cupboard	No										
<hr/>											
31.0 Thermal Store	None										
Thermal Store Pipework	within a single casing										
<hr/>											
32.0 Photovoltaic Unit	Multiple Dwellings – Not Connected										
Export Capable Meter?	Yes										
Connected To Dwelling	No										
Divertor	No										
Battery Capacity [kWh]	0.00										
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer			
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00					
<hr/>											
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	1B2P Flat EF	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	1B2P Flat EF
Property	1B2P Flat EF		
SAP Rating	83 B	DER	3.20
Environmental	98 A	% DER < TER	78.61
CO ₂ Emissions (t/year)	0.13	DFEE	40.87
Compliance Check	See BREL	% DFEE < TFEE	-12.48
% DPER < TPER	53.17	DPER	37.31
TPER	79.67		

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 ² 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:	19.50 m	1st Storey:	52.69 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	23.22	m ²
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9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	42.42	27.51	0.00	None	14.91	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	6.33	6.33	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	28.25	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	94.40

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	52.69

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Exposed Floor 1	Exposed Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	52.69

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	2.37	0
Side W	Windows	External Wall 1	West	4.75	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	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)	Non Gov Approved Schemes	7.10	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	6.09	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.50	0.05	0.05	RCD
E20 Exposed floor (normal)	Table K1 - Default	14.20	0.32	0.32	
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.31	0.35	0.35	TBC
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.50	0.04	0.04	
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.09	-0.09	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.50	0.04	0.04	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	7.50	0.03	0.03	RCD
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	11.29	0.48	0.48	
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	11.29	0.00	0.00	

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Balanced mechanical ventilation with heat recovery
MV Reference Number	500321
Configuration	2
Manufacturer SFP	0.76
Duct Type	Rigid
MVHR Efficiency	86.00
Wet Rooms	2
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)
Duct Installation Specification	Level 2

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	

Summary for Input Data

0.10	Through Wall Fan	0
0.10	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

22.0 Pressure Testing	Yes
Designed AP ₅₀	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.	100834	
Fuel Type	Electricity	
SAP Code	0	
Model Name	Compact P	
Manufacturer	Nilan AS	
Controls SAP Code	2506	
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	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
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
Immersion Heater	Single
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
Bathroom	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	Internal Store
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	1B2P Flat GF Corner (EC)			Issued on Date	25/07/2025																																	
Assessment Reference	001	Prop Type Ref	1B2P Flat GF Corner (EC)																																			
Property	1B2P Flat GF Corner (EC)																																					
SAP Rating	80 C	DER	3.82	TER	14.35																																	
Environmental	97 A	% DER < TER			73.38																																	
CO ₂ Emissions (t/year)	0.17	DFEE	33.42	TFEE	34.54																																	
Compliance Check	See BREL	% DFEE < TFEE			3.22																																	
% DPER < TPER	41.59	DPER	44.61	TPER	76.37																																	
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, End-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 ² K																																					
7.0 Electricity Tariff	Standard																																					
Smart electricity meter fitted	Yes																																					
Smart gas meter fitted	Yes																																					
7.0 Measurements	<table border="1"> <tr> <th colspan="2"></th> <th>Heat Loss Perimeter</th> <th>Internal Floor Area</th> <th>Average Storey Height</th> </tr> <tr> <td colspan="2">Ground floor:</td> <td>19.29 m</td> <td>54.47 m²</td> <td>2.50 m</td> </tr> <tr> <td colspan="2">1st Storey:</td> <td>29.98 m</td> <td>54.17 m²</td> <td>2.70 m</td> </tr> </table>							Heat Loss Perimeter	Internal Floor Area	Average Storey Height	Ground floor:		19.29 m	54.47 m ²	2.50 m	1st Storey:		29.98 m	54.17 m ²	2.70 m																		
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Ground floor:		19.29 m	54.47 m ²	2.50 m																																		
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8.0 Living Area	25.44 m ²																																					
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>43.97</td> <td>30.43</td> <td>0.00</td> <td>None</td> <td>13.54</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>4.24</td> <td>2.12</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>2.12</td> <td>Enter Gross Area</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	43.97	30.43	0.00	None	13.54	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	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type																												
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Communal Wall	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.26	110.00	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area																												
9.1 Party Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> </tr> </thead> <tbody> <tr> <td>Party Wall 1</td> <td>Filled Cavity with Edge Sealing</td> <td>Double plasterboard on both sides, twin timber frame with/without sheathing board</td> <td>0.00</td> <td>20.00</td> <td>27.03</td> <td>0.00</td> <td>None</td> </tr> </tbody> </table>					Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter	Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None																	
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter																															
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None																															
9.2 Internal Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Internal Wall 1</td> <td>Plasterboard on timber frame</td> <td>9.00</td> <td>119.81</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Internal Wall 1	Plasterboard on timber frame	9.00	119.81																									
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Internal Wall 1	Plasterboard on timber frame	9.00	119.81																																			
10.1 Party Ceilings	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Party Ceiling 1</td> <td>Precast concrete planks floor, screed, carpeted</td> <td>30.00</td> <td>54.47</td> </tr> </tbody> </table>					Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	54.47																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																			
Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	54.47																																			

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	54.47

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	0
Bottom W	Windows	External Wall 1	South	5.94	0

14.0 Conservatory

15.0 Draught Proofing

 %

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.46	0.05	0.05 HiTherm	No
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.29	0.04	0.04 RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	10.81	0.00	0.00 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.29	0.11	0.11 RCD	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	10.81	0.11	0.11 RCD	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03 RCD	No

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Mechanical extract ventilation - decentralised"/>
MV Reference Number	<input type="text" value="500776"/>
Configuration	<input type="text" value="1"/>
Manufacturer SFP	<input type="text" value="0.14"/>
Duct Type	<input type="text" value="Rigid"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>

19.1 Mechanical extract ventilation - Decentralised

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

20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	<input type="text" value="0"/>
Number of open flues	<input type="text" value="0"/>
Number of chimneys/flues attached to closed fire	<input type="text" value="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								
21.0 Fixed Cooling System	No								
22.0 Pressure Testing	Yes								
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa							
Property Tested?	Yes								
Test Method	Blower Door								
22.0 Lighting									
No Fixed Lighting	No								
	Name Lighting 1	Efficacy 75.00	Power 10.00	Capacity 750.00	Count 25				
24.0 Main Heating 1	None								
25.0 Main Heating 2	None								
26.0 Heat Networks	Space and Water Combined								
Space Community Heating									
Distribution Loss	Formal Declaration by Property Developer								
Distribution Loss Value	1.50								
SAP Code	2306								
Heat Source	Fuel Type	Heating Use	Efficiency	Percentage Of Heat	Heat	Heat Power Ratio	Electrical	Fuel Factor	Efficiency type
Heat source 1	Heat pump	Electricity	Space and Water	300.00	100.00				
Heat source 2	None								
Heat source 3	None								
Heat source 4	None								
Heat source 5	None								
27.0 Secondary Heating	None								
28.0 Water Heating									
Water Heating	Community Heating								
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								
Immersion Heater	Single								
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				
Bathroom	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1				
28.3 Waste Water Heat Recovery System									

Summary for Input Data

29.0 Hot Water Cylinder

Cylinder Stat	HIU
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	1.46
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	1B2P Flat GF			Issued on Date	25/07/2025					
Assessment Reference	001	Prop Type Ref	1B2P Flat GF							
Property	1B2P Flat GF									
SAP Rating	85 B	DER	2.72	TER	14.45					
Environmental	98 A	% DER < TER			81.18					
CO ₂ Emissions (t/year)	0.11	DFEE	32.62	TFEE	33.97					
Compliance Check	See BREL	% DFEE < TFEE			3.98					
% DPER < TPER	57.81	DPER	32.45	TPER	76.92					
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	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 ² 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: 1st Storey:	19.50 m 29.98 m	52.69 m ² 54.17 m ²	2.50 m 2.70 m						
8.0 Living Area	23.22 m ²									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	42.42	27.51	0.00	None	14.91	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	6.33	6.33	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter			
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	28.25	0.00	None			
9.2 Internal Walls										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Internal Wall 1	Plasterboard on timber frame				9.00	94.40				
10.1 Party Ceilings										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Party Ceiling 1	Precast concrete planks floor, screed, carpeted				30.00	52.69				

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	52.69

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	2.37	0
Side W	Windows	External Wall 1	West	4.75	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	0

14.0 Conservatory

15.0 Draught Proofing

 %

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.10	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	6.09	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	7.50	0.05	0.05 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.50	0.04	0.04	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.09	-0.09 RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	2.50	0.04	0.04 RCD	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	7.50	0.03	0.03 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	11.29	0.00	0.00	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	11.29	0.11	0.11 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	19.50	0.11	0.11 RCD	No

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Balanced mechanical ventilation with heat recovery"/>
MV Reference Number	<input type="text" value="500321"/>
Configuration	<input type="text" value="2"/>
Manufacturer SFP	<input type="text" value="0.76"/>
Duct Type	<input type="text" value="Rigid"/>
MVHR Efficiency	<input type="text" value="86.00"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>
MVHR System Location	<input type="text" value="Inside heated envelope (installed exclusively)"/>
Duct Installation Specification	<input type="text" value="Level 2"/>

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	
0.10	Through Wall Fan	0
	Other Wet Room	

Summary for Input Data

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 ₅₀	Yes
	4.00
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	25

24.0 Main Heating 1

Percentage of Heat	100.00	%
Database Ref. No.	100834	
Fuel Type	Electricity	
SAP Code	0	
Model Name	Compact P	
Manufacturer	Nilan AS	
Controls SAP Code	2506	
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	45.00	

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
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

Immersion Heater	Single
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
Bathroom	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	Internal Store
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	1B2P Flat MF Corner (EC)			Issued on Date	25/07/2025					
Assessment Reference	001	Prop Type Ref	1B2P Flat MF Corner (EC)							
Property	1B2P Flat MF Corner (EC)									
SAP Rating	81 B	DER	3.23	TER	12.56					
Environmental	98 A	% DER < TER			74.28					
CO ₂ Emissions (t/year)	0.15	DFEE	25.41	TFEE	26.04					
Compliance Check	See BREL	% DFEE < TFEE			2.41					
% DPER < TPER	42.07	DPER	38.65	TPER	66.72					
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, End-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 ² 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:	19.29 m 29.98 m	54.47 m ² 54.17 m ²	2.50 m 2.70 m						
8.0 Living Area	25.44 m ²									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	43.97	30.43	0.00	None	13.54	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	4.24	2.12	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter			
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	27.03	0.00	None			
9.2 Internal Walls										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Internal Wall 1	Plasterboard on timber frame				9.00	119.81				
10.1 Party Ceilings										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Party Ceiling 1	Precast concrete planks floor, screed, carpeted				30.00	54.47				

Summary for Input Data

11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	54.47

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	0
Bottom W	Windows	External Wall 1	South	5.94	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)	Non Gov Approved Schemes	7.46	0.05	0.05	HiTherm
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	38.58	0.04	0.04	No
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	21.62	0.00	0.00	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500776
Configuration	1
Manufacturer SFP	0.14
Duct Type	Rigid
Wet Rooms	2
SFP from Installer Commissioning Certificate	No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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								
21.0 Fixed Cooling System									
22.0 Pressure Testing	Yes								
Designed AP ₅₀	4.00								
Property Tested?	Yes								
Test Method	Blower Door								
22.0 Lighting									
No Fixed Lighting	No								
	Name Lighting 1	Efficacy 75.00	Power 10.00	Capacity 750.00	Count 25				
24.0 Main Heating 1		None							
25.0 Main Heating 2		None							
26.0 Heat Networks		Space and Water Combined							
Space Community Heating		Formal Declaration by Property Developer							
Distribution Loss	1.50								
Distribution Loss Value	2306								
Heat Source	Fuel Type	Heating Use	Efficiency	Percentage Of Heat	Heat	Heat Power Ratio	Electrical	Fuel Factor	Efficiency type
Heat source 1	Heat pump	Electricity	Space and Water	300.00	100.00				
Heat source 2	None								
Heat source 3	None								
Heat source 4	None								
Heat source 5	None								
27.0 Secondary Heating		None							
28.0 Water Heating		Community Heating							
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								
Immersion Heater	Single								
Summer Immersion	No								
Cold Water Source	From mains								
Bath Count	1								
Supplementary Immersion	No								
Immersion Only Heating Hot Water	No								
28.1 Showers		Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To			
Description	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		HIU							

Summary for Input Data

Cylinder Stat	Yes										
Cylinder In Heated Space	Yes										
Independent Time Control	Yes										
Insulation Type	Measured Loss										
Insulation Thickness Type	Other										
Insulation Thickness	15										
Cylinder Volume	180.00										
Loss	1.46										
Pipes insulation	Fully insulated primary pipework										
In Airing Cupboard	No										
<hr/>											
31.0 Thermal Store	None										
Thermal Store Pipework	within a single casing										
<hr/>											
32.0 Photovoltaic Unit	Multiple Dwellings – Not Connected										
Export Capable Meter?	Yes										
Connected To Dwelling	No										
Diverter	No										
Battery Capacity [kWh]	0.00										
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer			
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00					
<hr/>											
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	1B2P Flat MF Mid (EC)	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	1B2P Flat MF Mid (EC)
Property	1B2P Flat MF Mid (EC)		
SAP Rating	82 B	DER	2.99
Environmental	98 A	% DER < TER	11.91
CO ₂ Emissions (t/year)	0.13	DFEE	74.90
Compliance Check	See BREL	% DFEE < TFEE	22.13
% DPER < TPER	42.76	TPER	3.80
DPER	36.25	TPER	63.33

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 ² 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:	1st Storey:	13.51 m 29.98 m	54.22 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	24.89	m ²
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9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	16.39	8.79	0.00	None	7.60	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	17.38	15.26	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	41.76	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	119.00

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	54.22

Summary for Input Data

11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	54.22

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	3.80	0
Patio Doors	Patio Doors	External Wall 1	West	3.80	0

14.0 Conservatory

15.0 Draught Proofing

%

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	4.63	0.05	0.05	HiTherm
E4 Jamb	Non Gov Approved Schemes	12.60	0.02	0.02	RCD
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	27.02	0.04	0.04	
E18 Party wall between dwellings	Non Gov Approved Schemes	10.00	0.04	0.04	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	33.40	0.00	0.00	

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Mechanical extract ventilation - decentralised"/>
MV Reference Number	<input type="text" value="500776"/>
Configuration	<input type="text" value="1"/>
Manufacturer SFP	<input type="text" value="0.14"/>
Duct Type	<input type="text" value="Rigid"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>

19.1 Mechanical extract ventilation - Decentralised

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

20.0 Fans, Open Fireplaces, Flues

Number of open chimneys	<input type="text" value="0"/>
Number of open flues	<input type="text" value="0"/>
Number of chimneys/flues attached to closed fire	<input type="text" value="0"/>
Number of flues attached to solid fuel boiler	<input type="text" value="0"/>
Number of flues attached to other heater	<input type="text" value="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										
21.0 Fixed Cooling System	No										
22.0 Pressure Testing	Yes										
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa									
Property Tested?	Yes										
Test Method	Blower Door										
22.0 Lighting	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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
24.0 Main Heating 1	None										
25.0 Main Heating 2	None										
26.0 Heat Networks	Space and Water Combined										
Space Community Heating											
Distribution Loss	Formal Declaration by Property Developer										
Distribution Loss Value	1.50										
SAP Code	2306										
Heat Source	Fuel Type	Heating Use	Efficiency	Percentage Of Heat	Heat	Heat Power Ratio	Electrical	Fuel Factor	Efficiency type		
Heat source 1	Heat pump	Electricity	Space and Water	300.00	100.00						
Heat source 2	None										
Heat source 3	None										
Heat source 4	None										
Heat source 5	None										
27.0 Secondary Heating	None										
28.0 Water Heating											
Water Heating	Community Heating										
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										
Immersion Heater	Single										
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						
Bathroom	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	HIU										
Cylinder Stat	Yes										

Summary for Input Data

Cylinder In Heated Space	Yes										
Independent Time Control	Yes										
Insulation Type	Measured Loss										
Insulation Thickness Type	Other										
Insulation Thickness	15										
Cylinder Volume	180.00										
Loss	1.46										
Pipes insulation	Fully insulated primary pipework										
In Airing Cupboard	No										
<hr/>											
31.0 Thermal Store	None										
Thermal Store Pipework	within a single casing										
<hr/>											
32.0 Photovoltaic Unit	Multiple Dwellings – Not Connected										
Export Capable Meter?	Yes										
Connected To Dwelling	No										
Divertor	No										
Battery Capacity [kWh]	0.00										
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer			
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00					
<hr/>											
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	1B2P Flat MF	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	1B2P Flat MF
Property	1B2P Flat MF		
SAP Rating	86 B	DER	2.38
Environmental	98 A	% DER < TER	81.14
CO ₂ Emissions (t/year)	0.1	DFEE	26.12
Compliance Check	See BREL	% DFEE < TFEE	-3.45
% DPER < TPER	56.67	DPER	29.06
TPER		TPER	67.08

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	Mid-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 ² 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:	19.50 m	1st Storey:	52.69 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	23.22	m ²
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9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	42.42	27.51	0.00	None	14.91	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	6.33	6.33	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	28.25	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	94.40

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	52.69

Summary for Input Data

11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	52.69

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	2.37	0
Side W	Windows	External Wall 1	West	4.75	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	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)	Non Gov Approved Schemes	7.10	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	6.09	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	7.50	0.05	0.05	RCD
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.31	0.35	0.35	TBC
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	33.70	0.04	0.04	
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.00	-0.09	-0.09	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	2.50	0.04	0.04	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	7.50	0.03	0.03	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	22.58	0.00	0.00	

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Balanced mechanical ventilation with heat recovery
MV Reference Number	500321
Configuration	2
Manufacturer SFP	0.76
Duct Type	Rigid
MVHR Efficiency	86.00
Wet Rooms	2
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)
Duct Installation Specification	Level 2

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	

Summary for Input Data

0.10 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 ₅₀	4.00	m ³ /(h.m ²) @ 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.	100834	
Fuel Type	Electricity	
SAP Code	0	
Model Name	Compact P	
Manufacturer	Nilan AS	
Controls SAP Code	2506	
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	45.00	

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
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
Immersion Heater	Single
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
Bathroom	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	Internal Store
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00
Orientation	Horizontal
Elevation	Horizontal
Overshading	None Or Little
FGHRS	No
MCS Certificate	No
Overshading Factor	1.00
MCS Certificate Reference	
Panel Manufacturer	

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	1B2P Flat TF Corner (EC)			Issued on Date	25/07/2025																																	
Assessment Reference	001	Prop Type Ref	1B2P Flat TF Corner (EC)																																			
Property	1B2P Flat TF Corner (EC)																																					
SAP Rating	79 C	DER	3.79	TER	14.07																																	
Environmental	97 A	% DER < TER			73.06																																	
CO ₂ Emissions (t/year)	0.17	DFEE	32.78	TFEE	32.91																																	
Compliance Check	See BREL	% DFEE < TFEE			0.40																																	
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Assessor Details	Mr. Matthew Fitzpatrick			Assessor ID	7601-0001																																	
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Transaction Type	6																																					
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Position of Flat	Top-floor flat																																					
Which Floor	4																																					
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 ² K																																					
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Summary for Input Data



External Roof 1	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	54.47	54.47	None	0.00	Enter Gross Area	0.00										
11.1 Party Floors																				
Description	Storey Index	Construction					Kappa (kJ/m ² K)		Area (m ²)											
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted					30.00		54.47											
12.0 Opening Types																				
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)											
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20											
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20											
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20											
13.0 Openings																				
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch															
Front D	Entrance Door	Communal Wall	East	2.12	0															
Side W	Windows	External Wall 1	West	3.80	0															
Patio Doors	Patio Doors	External Wall 1	West	3.80	0															
Bottom W	Windows	External Wall 1	South	5.94	0															
14.0 Conservatory																				
		None																		
15.0 Draught Proofing																				
		100	%																	
16.0 Draught Lobby																				
		No																		
17.0 Thermal Bridging																				
17.1 List of Bridges																				
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported															
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.46	0.05	0.05	HiTherm					No										
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD					No										
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD					No										
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	19.29	0.04	0.04						No										
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD					No										
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	10.81	0.00	0.00						No										
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD					No										
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	19.29	0.07	0.07	RCD					No										
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	10.81	0.10	0.10	RCD					No										
Description	To be calculated																			
19.0 Mechanical Ventilation																				
Mechanical Ventilation																				
Mechanical Ventilation System Present		Yes																		
Approved Installation		Yes																		
Mechanical Ventilation data Type		Database																		
Type		Mechanical extract ventilation - decentralised																		
MV Reference Number		500776																		
Configuration		1																		
Manufacturer SFP		0.14																		
Duct Type		Rigid																		
Wet Rooms		2																		
SFP from Installer Commissioning Certificate		No																		
19.1 Mechanical extract ventilation - Decentralised																				
SFP	Fan/Room Type	Count																		
0.14	In Room Fan	1																		
	Kitchen																			
0.11	In Room Fan Other	1																		
	Wet Room																			
0.00	In Duct Fan Kitchen	0																		
0.00	In Duct Fan Other	0																		
	Wet Room																			
0.08	Through Wall Fan	0																		
	Kitchen																			
0.08	Through Wall Fan	0																		
	Other Wet Room																			
20.0 Fans, Open Fireplaces, Flues																				
Number of open chimneys		0																		

Summary for Input Data

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	Yes										
Designed AP ₅₀	4.00										
Property Tested?	Yes										
Test Method	Blower Door										
22.0 Lighting											
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>25</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Lighting 1	75.00	10.00	750.00	25
Name	Efficacy	Power	Capacity	Count							
Lighting 1	75.00	10.00	750.00	25							
24.0 Main Heating 1	None										
25.0 Main Heating 2	None										
26.0 Heat Networks	Space and Water Combined										
Space Community Heating											
Distribution Loss	Formal Declaration by Property Developer										
Distribution Loss Value	1.50										
SAP Code	2306										
Heat Source	Fuel Type	Heating Use	Efficiency	Percentage Of Heat	Heat	Heat Power Ratio	Electrical	Fuel Factor	Efficiency type		
Heat source 1	Heat pump	Electricity	Space and Water	300.00	100.00						
Heat source 2	None										
Heat source 3	None										
Heat source 4	None										
Heat source 5	None										
27.0 Secondary Heating	None										
28.0 Water Heating											
Water Heating	Community Heating										
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										
Immersion Heater	Single										
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						

Summary for Input Data



Bathroom	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	HIU										
Cylinder Stat	Yes										
Cylinder In Heated Space	Yes										
Independent Time Control	Yes										
Insulation Type	Measured Loss										
Insulation Thickness Type	Other										
Insulation Thickness	15										
Cylinder Volume	180.00	L									
Loss	1.46	kWh/day									
Pipes insulation	Fully insulated primary pipework										
In Airing Cupboard	No										
31.0 Thermal Store											
Thermal Store Pipework	None										
	within a single casing										
32.0 Photovoltaic Unit											
Export Capable Meter?	Multiple Dwellings – Not Connected										
Connected To Dwelling	Yes										
Diverter	No										
Battery Capacity [kWh]	No										
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer			
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00					
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
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Summary for Input Data

External Roof 1	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	54.22	54.22	None	0.00	Enter Gross Area	0.00
11.1 Party Floors										
Description	Storey Index	Construction					Kappa (kJ/m ² K)		Area (m ²)	
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted					30.00		54.22	
12.0 Opening Types										
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)	
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20	
13.0 Openings										
Name	Opening Type	Location	Orientation	Area (m ²)		Pitch				
Front D	Entrance Door	Communal Wall	East	2.12		0				
Side W	Windows	External Wall 1	West	3.80		0				
Patio Doors	Patio Doors	External Wall 1	West	3.80		0				
14.0 Conservatory										
		None								
15.0 Draught Proofing										
		100								%
16.0 Draught Lobby										
		No								
17.0 Thermal Bridging										
17.1 List of Bridges										
Bridge Type	Source Type	Length	Psi	Adjusted Reference:		Imported				
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	4.63	0.05	0.05	HiTherm	No				
E4 Jamb	Non Gov Approved Schemes	12.60	0.02	0.02	RCD	No				
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	13.51	0.04	0.04		No				
E18 Party wall between dwellings	Non Gov Approved Schemes	10.00	0.04	0.04	RCD	No				
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	16.70	0.00	0.00		No				
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	13.51	0.00	0.00	RCD	No				
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	16.70	0.10	0.10	RCD	No				
Description	To be calculated									
19.0 Mechanical Ventilation										
Mechanical Ventilation										
Mechanical Ventilation System Present	Yes									
Approved Installation	Yes									
Mechanical Ventilation data Type	Database									
Type	Mechanical extract ventilation - decentralised									
MV Reference Number	500776									
Configuration	1									
Manufacturer SFP	0.14									
Duct Type	Rigid									
Wet Rooms	2									
SFP from Installer Commissioning Certificate	No									
19.1 Mechanical extract ventilation - Decentralised										
SFP	Fan/Room Type	Count								
0.14	In Room Fan	1								
	Kitchen									
0.11	In Room Fan Other	1								
	Wet Room									
0.00	In Duct Fan Kitchen	0								
0.00	In Duct Fan Other	0								
	Wet Room									
0.08	Through Wall Fan	0								
	Kitchen									
0.08	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									

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								
21.0 Fixed Cooling System	No								
22.0 Pressure Testing	Yes								
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa							
Property Tested?	Yes								
Test Method	Blower Door								
22.0 Lighting									
No Fixed Lighting	No								
	Name Lighting 1	Efficacy 75.00	Power 10.00	Capacity 750.00	Count 25				
24.0 Main Heating 1	None								
25.0 Main Heating 2	None								
26.0 Heat Networks	Space and Water Combined								
Space Community Heating									
Distribution Loss	Formal Declaration by Property Developer								
Distribution Loss Value	1.50								
SAP Code	2306								
Heat Source	Fuel Type	Heating Use	Efficiency	Percentage Of Heat	Heat	Heat Power Ratio	Electrical	Fuel Factor	Efficiency type
Heat source 1	Heat pump	Electricity	Space and Water	300.00	100.00				
Heat source 2	None								
Heat source 3	None								
Heat source 4	None								
Heat source 5	None								
27.0 Secondary Heating	None								
28.0 Water Heating									
Water Heating	Community Heating								
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								
Immersion Heater	Single								
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				
Bathroom	Combi boiler or unvented hot water system	8.00		No	Instantaneous System 1				
28.3 Waste Water Heat Recovery System									

Summary for Input Data

29.0 Hot Water Cylinder

Cylinder Stat	HIU
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	1.46
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	2B4P Flat EF	Issued on Date	25/07/2025																																					
Assessment Reference	001	Prop Type Ref	2B4P Flat EF																																					
Property	2B4P Flat EF																																							
SAP Rating	84 B	DER	2.80																																					
Environmental	98 A	% DER < TER																																						
CO ₂ Emissions (t/year)	0.17	DFEE	36.51																																					
Compliance Check	See BREL	% DFEE < TFEE																																						
% DPER < TPER	51.80	DPER	31.71																																					
TPER	65.79																																							
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	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 ² K																																						
7.0 Electricity Tariff	Standard																																							
Smart electricity meter fitted	Yes																																							
Smart gas meter fitted	Yes																																							
7.0 Measurements	<table border="1"> <tr> <th colspan="2"></th> <th>Heat Loss Perimeter</th> <th>Internal Floor Area</th> <th>Average Storey Height</th> </tr> <tr> <td colspan="2">Ground floor:</td> <td>21.08 m</td> <td>74.20 m²</td> <td>2.50 m</td> </tr> <tr> <td colspan="2">1st Storey:</td> <td>29.98 m</td> <td>54.17 m²</td> <td>2.70 m</td> </tr> </table>						Heat Loss Perimeter	Internal Floor Area	Average Storey Height	Ground floor:		21.08 m	74.20 m ²	2.50 m	1st Storey:		29.98 m	54.17 m ²	2.70 m																					
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8.0 Living Area	28.52	m ²																																						
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>45.33</td> <td>29.01</td> <td>0.00</td> <td>None</td> <td>16.32</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>7.37</td> <td>7.37</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>0.00</td> <td>Enter Gross Area</td> </tr> </tbody> </table>							Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	45.33	29.01	0.00	None	16.32	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	7.37	7.37	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type																														
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter																																	
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	37.97	0.00	None																																	
9.2 Internal Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Internal Wall 1</td> <td>Plasterboard on timber frame</td> <td>9.00</td> <td>143.42</td> </tr> </tbody> </table>							Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Internal Wall 1	Plasterboard on timber frame	9.00	143.42																									
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Internal Wall 1	Plasterboard on timber frame	9.00	143.42																																					
10.1 Party Ceilings	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Party Ceiling 1</td> <td>Precast concrete planks floor, screed, carpeted</td> <td>30.00</td> <td>74.20</td> </tr> </tbody> </table>							Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	74.20																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																					
Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	74.20																																					

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Exposed Floor 1	Exposed Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	74.20

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	4.75	0
Side W	Windows	External Wall 1	East	3.78	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	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)	Non Gov Approved Schemes	7.77	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	6.76	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD
E20 Exposed floor (normal)	Table K1 - Default	15.16	0.32	0.32	
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.93	0.35	0.35	TBC
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	21.09	0.04	0.04	
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.50	-0.09	-0.09	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD
P7 Party Wall - Exposed floor (normal)	Table K1 - Default	15.19	0.48	0.48	
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	15.19	0.00	0.00	

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Balanced mechanical ventilation with heat recovery
MV Reference Number	500321
Configuration	2
Manufacturer SFP	0.76
Duct Type	Rigid
MVHR Efficiency	86.00
Wet Rooms	2
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)
Duct Installation Specification	Level 2

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	

Summary for Input Data

0.10	Through Wall Fan	0
0.10	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

22.0 Pressure Testing	Yes
Designed AP ₅₀	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.	100834	
Fuel Type	Electricity	
SAP Code	0	
Model Name	Compact P	
Manufacturer	Nilan AS	
Controls SAP Code	2506	
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	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
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
Immersion Heater	Single
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
Bathroom	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	Internal Store
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	2B4P Flat GF (EC)	Issued on Date	25/07/2025																																					
Assessment Reference	001	Prop Type Ref	2B4P Flat GF (EC)																																					
Property	2B4P Flat GF (EC)																																							
SAP Rating	80 C	DER	3.84																																					
Environmental	97 A	% DER < TER																																						
CO ₂ Emissions (t/year)	0.27	DFEE	35.26																																					
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Assessor Details	Mr. Matthew Fitzpatrick	Assessor ID	7601-0001																																					
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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, End-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																																							
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Ground floor:		28.27 m	83.20 m ²	2.50 m																																				
1st Storey:		29.98 m	54.17 m ²	2.70 m																																				
8.0 Living Area	40.47	m ²																																						
9.0 External Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Gross Area(m²)</th> <th>Nett Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> <th>Openings</th> <th>Area Calculation Type</th> </tr> </thead> <tbody> <tr> <td>External Wall 1</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.18</td> <td>110.00</td> <td>24.90</td> <td>9.70</td> <td>0.00</td> <td>None</td> <td>15.20</td> <td>Enter Gross Area</td> </tr> <tr> <td>Communal Wall</td> <td>Cavity Wall</td> <td>Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure</td> <td>0.26</td> <td>110.00</td> <td>45.78</td> <td>43.66</td> <td>0.70</td> <td>Stairwell Access Corridor 3</td> <td>2.12</td> <td>Enter Gross Area</td> </tr> </tbody> </table>							Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type	External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	24.90	9.70	0.00	None	15.20	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	45.78	43.66	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type																														
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	24.90	9.70	0.00	None	15.20	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	45.78	43.66	0.70	Stairwell Access Corridor 3	2.12	Enter Gross Area																														
9.1 Party Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Type</th> <th>Construction</th> <th>U-Value (W/m²K)</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> <th>Shelter Res</th> <th>Shelter</th> </tr> </thead> <tbody> <tr> <td>Party Wall 1</td> <td>Filled Cavity with Edge Sealing</td> <td>Double plasterboard on both sides, twin timber frame with/without sheathing board</td> <td>0.00</td> <td>20.00</td> <td>20.88</td> <td>0.00</td> <td>None</td> </tr> </tbody> </table>							Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter	Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	20.88	0.00	None																	
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter																																	
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	20.88	0.00	None																																	
9.2 Internal Walls	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Internal Wall 1</td> <td>Plasterboard on timber frame</td> <td>9.00</td> <td>147.69</td> </tr> </tbody> </table>							Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Internal Wall 1	Plasterboard on timber frame	9.00	147.69																									
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Internal Wall 1	Plasterboard on timber frame	9.00	147.69																																					
10.1 Party Ceilings	<table border="1"> <thead> <tr> <th>Description</th> <th>Construction</th> <th>Kappa (kJ/m²K)</th> <th>Area (m²)</th> </tr> </thead> <tbody> <tr> <td>Party Ceiling 1</td> <td>Precast concrete planks floor, screed, carpeted</td> <td>30.00</td> <td>83.20</td> </tr> </tbody> </table>							Description	Construction	Kappa (kJ/m ² K)	Area (m ²)	Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	83.20																									
Description	Construction	Kappa (kJ/m ² K)	Area (m ²)																																					
Party Ceiling 1	Precast concrete planks floor, screed, carpeted	30.00	83.20																																					

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	83.20

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	Communal Wall	East	2.12	0
Side W	Windows	External Wall 1	West	7.60	0
Patio Doors	Patio Doors	External Wall 1	West	7.60	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)	Non Gov Approved Schemes	8.25	0.05	0.05	HiTherm
E4 Jamb	Non Gov Approved Schemes	21.00	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	28.27	0.04	0.04	
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	8.35	0.00	0.00	
E5 Ground floor (normal)	Non Gov Approved Schemes	28.27	0.11	0.11	RCD
P1 Party wall - Ground floor	Non Gov Approved Schemes	8.35	0.11	0.11	RCD

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500776
Configuration	1
Manufacturer SFP	0.14
Duct Type	Rigid
Wet Rooms	2
SFP from Installer Commissioning Certificate	No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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								
21.0 Fixed Cooling System									
22.0 Pressure Testing	Yes								
Designed AP ₅₀	4.00								
Property Tested?	Yes								
Test Method	Blower Door								
22.0 Lighting									
No Fixed Lighting	No								
	Name Lighting 1	Efficacy 75.00	Power 10.00	Capacity 750.00	Count 25				
24.0 Main Heating 1		None							
25.0 Main Heating 2		None							
26.0 Heat Networks		Space and Water Combined							
Space Community Heating		Formal Declaration by Property Developer							
Distribution Loss	1.50								
Distribution Loss Value	2306								
Heat Source	Fuel Type	Heating Use	Efficiency	Percentage Of Heat	Heat	Heat Power Ratio	Electrical	Fuel Factor	Efficiency type
Heat source 1	Heat pump	Electricity	Space and Water	300.00	100.00				
Heat source 2	None								
Heat source 3	None								
Heat source 4	None								
Heat source 5	None								
27.0 Secondary Heating		None							
28.0 Water Heating		Community Heating							
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								
Immersion Heater	Single								
Summer Immersion	No								
Cold Water Source	From mains								
Bath Count	1								
Supplementary Immersion	No								
Immersion Only Heating Hot Water	No								
28.1 Showers		Shower Type	Flow Rate [l/min]	Rated Power [kW]	Connected	Connected To			
Description	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		HIU							

Summary for Input Data

Cylinder Stat	Yes										
Cylinder In Heated Space	Yes										
Independent Time Control	Yes										
Insulation Type	Measured Loss										
Insulation Thickness Type	Other										
Insulation Thickness	15										
Cylinder Volume	180.00										
Loss	1.46										
Pipes insulation	Fully insulated primary pipework										
In Airing Cupboard	No										
<hr/>											
31.0 Thermal Store	None										
Thermal Store Pipework	within a single casing										
<hr/>											
32.0 Photovoltaic Unit	Multiple Dwellings – Not Connected										
Export Capable Meter?	Yes										
Connected To Dwelling	No										
Diverter	No										
Battery Capacity [kWh]	0.00										
PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer			
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00					
<hr/>											
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	2B4P Flat GF	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	2B4P Flat GF
Property	2B4P Flat GF		
SAP Rating	86 B	DER	2.37
Environmental	98 A	% DER < TER	12.01
CO ₂ Emissions (t/year)	0.14	DFEE	80.27
Compliance Check	See BREL	% DFEE < TFEE	30.60
% DPER < TPER	56.92	DPER	4.31
		TPER	63.53

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 ² 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:	1st Storey:	21.08 m 29.98 m	74.20 m ² 54.17 m ²	2.50 m 2.70 m

8.0 Living Area	28.52	m ²
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9.0 External Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	45.33	29.01	0.00	None	16.32	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	7.37	7.37	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	37.97	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Wall 1		Plasterboard on timber frame	9.00	143.42

10.1 Party Ceilings		Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Ceiling 1		Precast concrete planks floor, screed, carpeted	30.00	74.20

Summary for Input Data

11.0 Heat Loss Floors

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Other	0.12	None	0.00	75.00	74.20

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	4.75	0
Side W	Windows	External Wall 1	East	3.78	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	0

14.0 Conservatory

15.0 Draught Proofing

16.0 Draught Lobby

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.77	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	6.76	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05 RCD	No
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	21.09	0.04	0.04	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.50	-0.09	-0.09 RCD	No
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04 RCD	No
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03 RCD	No
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	15.19	0.00	0.00	No
E5 Ground floor (normal)	Non Gov Approved Schemes	21.09	0.11	0.11 RCD	No
P1 Party wall - Ground floor	Non Gov Approved Schemes	15.19	0.11	0.11 RCD	No

Description

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	<input type="text" value="Yes"/>
Approved Installation	<input type="text" value="Yes"/>
Mechanical Ventilation data Type	<input type="text" value="Database"/>
Type	<input type="text" value="Balanced mechanical ventilation with heat recovery"/>
MV Reference Number	<input type="text" value="500321"/>
Configuration	<input type="text" value="2"/>
Manufacturer SFP	<input type="text" value="0.76"/>
Duct Type	<input type="text" value="Rigid"/>
MVHR Efficiency	<input type="text" value="86.00"/>
Wet Rooms	<input type="text" value="2"/>
SFP from Installer Commissioning Certificate	<input type="text" value="No"/>
MVHR System Location	<input type="text" value="Inside heated envelope (installed exclusively)"/>
Duct Installation Specification	<input type="text" value="Level 2"/>

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	
0.10	Through Wall Fan	0
	Other Wet Room	

Summary for Input Data

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 ₅₀	Yes
	4.00
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	25

24.0 Main Heating 1

Percentage of Heat	100.00	%
Database Ref. No.	100834	
Fuel Type	Electricity	
SAP Code	0	
Model Name	Compact P	
Manufacturer	Nilan AS	
Controls SAP Code	2506	
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	45.00	

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
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

Immersion Heater	Single
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
Bathroom	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	Internal Store
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	within a single casing
------------------------	------------------------

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	0.00

PV Cells kWp	Orientation	Elevation	Overshading	FGHRS	MCS Certificate	Overshading Factor	MCS Certificate Reference	Panel Manufacturer
0.88	Horizontal	Horizontal	None Or Little	No	No	1.00		

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	2B4P Flat MF	Issued on Date	25/07/2025							
Assessment Reference	001	Prop Type Ref	2B4P Flat MF							
Property	2B4P Flat MF									
SAP Rating	87 B	DER	2.04							
Environmental	98 A	% DER < TER								
CO ₂ Emissions (t/year)	0.12	DFEE	22.70							
Compliance Check	See BREL	% DFEE < TFEE								
% DPER < TPER	55.49	DPER	24.12							
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	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 ² K								
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
	Ground floor: 21.08 m	Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	1st Storey: 29.98 m		74.20 m ² 54.17 m ²	2.50 m 2.70 m						
8.0 Living Area	28.52	m ²								
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K) 0.18	Kappa (kJ/m ² K) 110.00	Gross Area(m ²) 45.33	Nett Area (m ²) 29.01	Shelter Res 0.00	Shelter	Openings	Area Calculation Type
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.18	110.00	45.33	29.01	0.00	None	16.32	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	7.37	7.37	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K) 0.00	Kappa (kJ/m ² K) 20.00	Area (m ²) 37.97	Shelter Res 0.00	Shelter	Shelter		
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board	0.00	20.00	37.97	0.00	None	None		
9.2 Internal Walls										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Internal Wall 1	Plasterboard on timber frame				9.00	143.42				
10.1 Party Ceilings										
Description	Construction				Kappa (kJ/m ² K)	Area (m ²)				
Party Ceiling 1	Precast concrete planks floor, screed, carpeted				30.00	74.20				

Summary for Input Data

11.1 Party Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted	30.00	74.20

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front D	Entrance Door	External Wall 1	North	2.12	0
Bottom W	Windows	External Wall 1	South	4.75	0
Side W	Windows	External Wall 1	East	3.78	0
Balcony Door	Patio Doors	External Wall 1	South	5.67	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)	Non Gov Approved Schemes	7.77	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	6.76	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05	RCD
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.93	0.35	0.35	TBC
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	36.25	0.04	0.04	
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.50	-0.09	-0.09	RCD
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04	RCD
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03	RCD
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	30.38	0.00	0.00	

Description

To be calculated

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Balanced mechanical ventilation with heat recovery
MV Reference Number	500321
Configuration	2
Manufacturer SFP	0.76
Duct Type	Rigid
MVHR Efficiency	86.00
Wet Rooms	2
SFP from Installer Commissioning Certificate	No
MVHR System Location	Inside heated envelope (installed exclusively)
Duct Installation Specification	Level 2

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.13	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	1
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	

Summary for Input Data

0.10 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 ₅₀	4.00	m ³ /(h.m ²) @ 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.	100834	
Fuel Type	Electricity	
SAP Code	0	
Model Name	Compact P	
Manufacturer	Nilan AS	
Controls SAP Code	2506	
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	45.00	

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
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
Immersion Heater	Single
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
Bathroom	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	Internal Store
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00
Orientation	Horizontal
Elevation	Horizontal
Overshading	None Or Little
FGHRS	No
MCS Certificate	No
Overshading Factor	1.00
MCS Certificate Reference	
Panel Manufacturer	

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	2B4P Flat TF	Issued on Date	25/07/2025							
Assessment Reference	001	Prop Type Ref	2B4P Flat TF							
Property	2B4P Flat TF									
SAP Rating	86 B	DER	2.45							
Environmental	98 A	% DER < TER								
CO ₂ Emissions (t/year)	0.15	DFEE	29.96							
Compliance Check	See BREL	% DFEE < TFEE								
% DPER < TPER	54.96	DPER	28.22							
TPER	62.66									
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	Top-floor flat									
Which Floor	4									
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 ² K								
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	Yes									
7.0 Measurements										
	Ground floor: 21.08 m	Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	1st Storey: 29.98 m		74.20 m ² 54.17 m ²	2.50 m 2.70 m						
8.0 Living Area	28.52	m ²								
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K) 0.18	Kappa (kJ/m ² K) 110.00	Gross Area(m ²) 45.33	Nett Area (m ²) 29.01	Shelter Res 0.00	Shelter	Openings 16.32	Area Calculation Type Enter Gross Area
External Wall 1	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure						None		
Communal Wall	Cavity Wall	Cavity wall; plasterboard on dabs or battens, lightweight aggregate block, filled cavity, any outside structure	0.26	110.00	7.37	7.37	0.70	Stairwell Access Corridor 3	0.00	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K) 0.00	Kappa (kJ/m ² K) 20.00	Area (m ²) 37.97	Shelter Res 0.00	Shelter			
Party Wall 1	Filled Cavity with Edge Sealing	Double plasterboard on both sides, twin timber frame with/without sheathing board					None			
9.2 Internal Walls										
Description	Construction				Kappa (kJ/m ² K) 9.00	Area (m ²) 143.42				
Internal Wall 1	Plasterboard on timber frame									
10.0 External Roofs										
Description	Type	Construction	U-Value (W/m ² K) 0.00	Kappa (kJ/m ² K) 20.00	Gross Area(m ²) 37.97	Nett Area (m ²) 0.00	Shelter Code Factor 0.00	Shelter Factor 0.00	Calculation Type Enter Gross Area	

Summary for Input Data

External Roof 1	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	74.20	74.20	None	0.00	Enter Gross Area	0.00
11.1 Party Floors										
Description	Storey Index	Construction					Kappa (kJ/m ² K)		Area (m ²)	
Party Floor 1	Lowest occupied	Precast concrete planks floor, screed, carpeted					30.00		74.20	
12.0 Opening Types										
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)	
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Patio Doors	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.1			0.33		1.00	1.20	
Entrance Door	Manufacturer	Solid Door	Double Low-E Soft 0.1			0.63			1.20	
13.0 Openings										
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch					
Front D	Entrance Door	External Wall 1	North	2.12	0					
Bottom W	Windows	External Wall 1	South	4.75	0					
Side W	Windows	External Wall 1	East	3.78	0					
Balcony Door	Patio Doors	External Wall 1	South	5.67	0					
14.0 Conservatory										
		None								
15.0 Draught Proofing										
		100								%
16.0 Draught Lobby										
		No								
17.0 Thermal Bridging										
17.1 List of Bridges										
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported					
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	7.77	0.05	0.05 HiTherm	No					
E3 Sill	Non Gov Approved Schemes	6.76	0.02	0.02 RCD	No					
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02 RCD	No					
E16 Corner (normal)	Non Gov Approved Schemes	5.00	0.05	0.05 RCD	No					
E23 Balcony within or between dwellings, balcony support penetrates wall insulation	Independently assessed	5.93	0.35	0.35 TBC	No					
E7 Party floor between dwellings (in blocks of flats)	Non Gov Approved Schemes	21.09	0.04	0.04	No					
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	2.50	-0.09	-0.09 RCD	No					
E18 Party wall between dwellings	Non Gov Approved Schemes	5.00	0.04	0.04 RCD	No					
E25 Staggered party wall between dwellings	Non Gov Approved Schemes	5.00	0.03	0.03 RCD	No					
P3 Party wall - Intermediate floor between dwellings (in blocks of flats)	Table K1 - Default	15.19	0.00	0.00	No					
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	15.19	0.10	0.10 RCD	No					
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	5.93	0.07	0.07 RCD	No					
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	15.16	0.04	0.04 RCD	No					
Description	To be calculated									
19.0 Mechanical Ventilation										
Mechanical Ventilation										
Mechanical Ventilation System Present	Yes									
Approved Installation	Yes									
Mechanical Ventilation data Type	Database									
Type	Balanced mechanical ventilation with heat recovery									
MV Reference Number	500321									
Configuration	2									
Manufacturer SFP	0.76									
Duct Type	Rigid									
MVHR Efficiency	86.00									
Wet Rooms	2									
SFP from Installer Commissioning Certificate	No									
MVHR System Location	Inside heated envelope (installed exclusively)									
Duct Installation Specification	Level 2									
19.1 Mechanical extract ventilation - Decentralised										
SFP	Fan/Room Type	Count								
0.13	In Room Fan	1								
0.11	Kitchen									
	In Room Fan Other	1								
	Wet Room									

Summary for Input Data

0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.10	Through Wall Fan	0
	Kitchen	
0.10	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 ₅₀	Yes	
	4.00	m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

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

24.0 Main Heating 1

Percentage of Heat	100.00	%
Database Ref. No.	100834	
Fuel Type	Electricity	
SAP Code	0	
Model Name	Compact P	
Manufacturer	Nilan AS	
Controls SAP Code	2506	
Delayed Start Stat	Yes	
Burner Control	On/Off	
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	45.00	

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
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
Immersion Heater	Single
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
Bathroom	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	Internal Store
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss
Insulation Thickness Type	Other
Insulation Thickness	15
Cylinder Volume	180.00
Loss	0.84
Pipes insulation	Fully insulated primary pipework
In Airing Cupboard	No

31.0 Thermal Store

Thermal Store Pipework	None
	within a single casing

32.0 Photovoltaic Unit

Export Capable Meter?	Multiple Dwellings – Not Connected
Connected To Dwelling	Yes
Diverter	No
Battery Capacity [kWh]	No
PV Cells kWp	0.00
Orientation	Horizontal
Elevation	Horizontal
Overshading	None Or Little
FGHRS	No
MCS Certificate	No
Overshading Factor	1.00
MCS Certificate Reference	
Panel Manufacturer	

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	Affordable SD	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Affordable SD
Property	Affordable SD		
SAP Rating	84 B	DER	3.87
Environmental	97 A	% DER < TER	11.56
CO ₂ Emissions (t/year)	0.28	DFEE	66.52
Compliance Check	See BREL	% DFEE < TFEE	36.24
% DPER < TPER	0.27	DPER	36.34
	32.77	TPER	0.29

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	Rural
1.0 Property Type	House, Semi-Detached
Position of Flat	Mid-floor flat
Which Floor	1
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 ² K
7.0 Electricity Tariff	Standard
Smart electricity meter fitted	Yes
Smart gas meter fitted	No

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		18.15 m	39.66 m ²	2.50 m
1st Storey:		18.15 m	39.66 m ²	2.70 m

8.0 Living Area	20.82	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	94.37	71.63	0.00	None	22.74	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	38.15	0.00	None

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	151.45

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Openings	Calculation Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	39.66	39.66	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
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Summary for Input Data



Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	39.66						
11.0 Heat Loss Floors									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m ² K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m ² K) 75.00						
			Area (m ²) 39.66						
11.2 Internal Floors									
Description	Storey Index	Construction	Kappa (kJ/m ² K) Area (m ²)						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 39.66						
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	5.95	0				
Rear Windows	Windows	External Wall	South	3.33	0				
Patio Doors	Bi-Fold/Patio Door	External Wall	South	11.34	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)	Non Gov Approved Schemes	12.08	0.05	0.05	HiTherm	No			
E3 Sill	Non Gov Approved Schemes	6.78	0.02	0.02	RCD	No			
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD	No			
E5 Ground floor (normal)	Non Gov Approved Schemes	18.15	0.11	0.11	RCD	No			
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	10.81	0.07	0.07	RCD	No			
E16 Corner (normal)	Non Gov Approved Schemes	10.40	0.05	0.05	RCD	No			
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	18.15	0.00	0.00	RCD	No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.34	0.10	0.10	RCD	No			
E18 Party wall between dwellings	Non Gov Approved Schemes	10.40	0.04	0.04	RCD	No			
P1 Party wall - Ground floor	Non Gov Approved Schemes	7.34	0.11	0.11	RCD	No			
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	7.34	0.00	0.00		No			
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	7.34	0.10	0.10	RCD	No			
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	3								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	2							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								

Summary for Input Data

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 ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

No Fixed Lighting	No				
	Name	Efficacy	Power	Capacity	Count
	Pendant light	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	
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	

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
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
Hot Water Controls Model	HIU

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	9.30	Yes	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
Insulation Thickness Type	50 mm
Insulation Thickness	50
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

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	Bindon DET	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Bindon DET
Property	Bindon DET		
SAP Rating	84 B	DER	3.37
Environmental	97 A	% DER < TER	10.19
CO ₂ Emissions (t/year)	0.45	DFEE	38.09
Compliance Check	See BREL	% DFEE < TFEE	66.93
% DPER < TPER	34.20	DPER	35.06
TPER	53.29		

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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	0.00	kJ/m ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		29.33 m	48.65 m ²	2.50 m
1st Storey:		29.33 m	48.65 m ²	2.70 m
2nd Storey:		29.33 m	48.65 m ²	2.70 m

8.0 Living Area	27.14	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	231.65	203.78	0.00	None	27.87	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	259.94

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Shelter Factor	Calculation Type	Openings
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	48.65	48.65	None	0.00	Enter Gross Area	0.00	0.00

10.2 Internal Ceilings		Storey	Construction	Area (m ²)		
Internal Ceiling 1		Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	97.30		

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	48.65

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	97.30

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	6.36	0
Rear Windows	Windows	External Wall	South	6.82	0
Front Patio Doors	Bi-Fold/Patio Door	External Wall	North	5.96	0
Rear Patio Doors	Bi-Fold/Patio Door	External Wall	South	6.60	0

14.0 Conservatory

None

15.0 Draught Proofing

100

%

16.0 Draught Lobby

No

17.0 Thermal Bridging

17.1 List of Bridges

Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	14.34	0.05	0.05	HiTherm
E3 Sill	Non Gov Approved Schemes	4.32	0.02	0.02	RCD
E4 Jamb	Non Gov Approved Schemes	42.04	0.02	0.02	RCD
E5 Ground floor (normal)	Non Gov Approved Schemes	29.33	0.11	0.11	RCD
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	19.19	0.07	0.07	RCD
E16 Corner (normal)	Non Gov Approved Schemes	31.60	0.05	0.05	RCD
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	58.66	0.00	0.00	RCD
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	10.13	0.10	0.10	RCD

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

Yes

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500776

Configuration

1

Manufacturer SFP

0.14

Duct Type

Rigid

Wet Rooms

4

SFP from Installer Commissioning Certificate

No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	3
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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																	
21.0 Fixed Cooling System																		
22.0 Pressure Testing	Yes																	
Designed AP ₅₀	4.00																	
Property Tested?	Yes																	
Test Method	Blower Door																	
22.0 Lighting																		
No Fixed Lighting	<table border="1"> <thead> <tr> <th colspan="2">No</th> </tr> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</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	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
No																		
Name	Efficacy	Power	Capacity	Count														
Pendant light	75.00	10.00	750.00	10														
Batten light	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																	
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																	
25.0 Main Heating 2																		
26.0 Heat Networks																		
27.0 Secondary Heating																		
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																	
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

Hot Water Controls Model

HIU

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	9.30	Yes	Instantaneous System 1
2	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
Insulation Thickness Type	50 mm
Insulation Thickness	50
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	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	Farleigh DET	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Farleigh DET
Property	Farleigh DET		
SAP Rating	83 B	DER	3.90
Environmental	96 A	% DER < TER	11.26
CO ₂ Emissions (t/year)	0.36	DFEE	65.36
Compliance Check	See BREL	% DFEE < TFEE	40.15
% DPER < TPER	30.81	TPER	40.92
DPER	40.68	TFEE	1.88
			58.80

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		29.76 m	50.76 m ²	2.50 m
1st Storey:		29.76 m	50.76 m ²	2.70 m

8.0 Living Area	37.53	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	154.73	128.17	0.00	None	26.56	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	201.71

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calulation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	50.76	50.76	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	50.76

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	50.76

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	50.76

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	5.95	0
Rear Windows	Windows	External Wall	South	4.28	0
Patio Doors	Bi-Fold/Patio Door	External Wall	South	11.34	0
Side Windows	Windows	External Wall	East	2.87	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)	Non Gov Approved Schemes	14.81	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	8.61	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	33.60	0.02	0.02 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	29.76	0.11	0.11 RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	19.16	0.07	0.07 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	20.80	0.05	0.05 RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	29.76	0.00	0.00 RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	10.59	0.10	0.10 RCD	No

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

Yes

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500776

Configuration

1

Manufacturer SFP

0.14

Duct Type

Rigid

Wet Rooms

4

SFP from Installer Commissioning Certificate

No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	3
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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																	
21.0 Fixed Cooling System																		
22.0 Pressure Testing	Yes																	
Designed AP ₅₀	4.00																	
Property Tested?	Yes																	
Test Method	Blower Door																	
22.0 Lighting																		
No Fixed Lighting	<table border="1"> <thead> <tr> <th colspan="2">No</th> </tr> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</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	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
No																		
Name	Efficacy	Power	Capacity	Count														
Pendant light	75.00	10.00	750.00	10														
Batten light	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																	
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																	
25.0 Main Heating 2																		
26.0 Heat Networks																		
27.0 Secondary Heating																		
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																	
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

Hot Water Controls Model

HIU

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	9.30	Yes	Instantaneous System 1
2	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
Insulation Thickness Type	50 mm
Insulation Thickness	50
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	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	Farleigh SD	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Farleigh SD
Property	Farleigh SD		
SAP Rating	84 B	DER	3.61
Environmental	97 A	% DER < TER	65.02
CO ₂ Emissions (t/year)	0.33	DFEE	36.06
Compliance Check	See BREL	% DFEE < TFEE	36.47
% DPER < TPER	29.85	DPER	37.71
TPER	53.75		

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	Rural	
1.0 Property Type	House, Semi-Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:	20.16 m		50.86 m ²	2.50 m
1st Storey:	20.16 m		50.86 m ²	2.70 m

8.0 Living Area	37.44	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	104.94	78.38	0.00	None	26.56	Enter Gross Area

9.1 Party Walls		Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter
Party Wall	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	49.84	0.00	None

Description	Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions	Plasterboard on timber frame	9.00	201.07

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculus	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	50.86	50.86	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
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Summary for Input Data

Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	50.86						
11.0 Heat Loss Floors									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m ² K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m ² K) 75.00						
			Area (m ²) 50.86						
11.2 Internal Floors									
Description	Storey Index	Construction	Kappa (kJ/m ² K) Area (m ²)						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 50.86						
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	5.95	0				
Rear Windows	Windows	External Wall	South	4.28	0				
Patio Doors	Bi-Fold/Patio Door	External Wall	South	11.34	0				
Side Windows	Windows	External Wall	East	2.87	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)	Non Gov Approved Schemes	14.81	0.05	0.05	HiTherm	No			
E3 Sill	Non Gov Approved Schemes	8.61	0.02	0.02	RCD	No			
E4 Jamb	Non Gov Approved Schemes	33.60	0.02	0.02	RCD	No			
E5 Ground floor (normal)	Non Gov Approved Schemes	20.16	0.11	0.11	RCD	No			
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	9.59	0.07	0.07	RCD	No			
E16 Corner (normal)	Non Gov Approved Schemes	10.40	0.05	0.05	RCD	No			
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	20.16	0.00	0.00	RCD	No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	10.61	0.10	0.10	RCD	No			
E18 Party wall between dwellings	Non Gov Approved Schemes	10.40	0.04	0.04	RCD	No			
P1 Party wall - Ground floor	Non Gov Approved Schemes	9.58	0.11	0.11	RCD	No			
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	9.58	0.00	0.00		No			
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	9.58	0.10	0.10	RCD	No			
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								

Summary for Input Data

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 ₅₀	Yes
	4.00 m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes
Test Method	Blower Door

22.0 Lighting

No Fixed Lighting	No	Name	Efficacy	Power	Capacity	Count
		Pendant light	75.00	10.00	750.00	10
		Batten light	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	
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	

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
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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	None
Electricity Generated	0.00
Apportioned	0.00
Connected to dwelling's electricity meter	
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	Haddington DET			Issued on Date	25/07/2025					
Assessment Reference	001	Prop Type Ref	Haddington DET							
Property	Haddington DET									
SAP Rating	83 B	DER	3.79	TER	10.87					
Environmental	97 A	% DER < TER			65.13					
CO ₂ Emissions (t/year)	0.37	DFEE	39.07	TFEE	40.12					
Compliance Check	See BREL	% DFEE < TFEE			2.62					
% DPER < TPER	30.33	DPER	39.52	TPER	56.72					
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	Rural									
1.0 Property Type	House, Detached									
Position of Flat	Mid-floor flat									
Which Floor	1									
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 ² K									
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	No									
7.0 Measurements										
		Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	Ground floor: 1st Storey:	29.80 m 29.80 m	53.69 m ² 53.69 m ²	2.50 m 2.70 m						
8.0 Living Area	40.12 m ²									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	154.97	131.27	0.00	None	23.70	Enter Gross Area
9.2 Internal Walls						Kappa (kJ/m ² K)	Area (m ²)			
Description	Construction					9.00	202.96			
Stud Partitions	Plasterboard on timber frame									
10.0 External Roofs										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calulation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	53.69	53.69	None	0.00	Enter Gross Area	0.00
10.2 Internal Ceilings										
Description	Storey	Construction						Area (m ²)		
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor						53.69		
11.0 Heat Loss Floors										
Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)		
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	53.69		

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	53.69

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	5.62	0
Rear Windows	Windows	External Wall	South	8.34	0
Patio Doors	Bi-Fold/Patio Door	External Wall	South	3.80	0
Right Side Windows	Windows	External Wall	East	2.87	0
Left Side Windows	Windows	External Wall	West	0.96	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)	Non Gov Approved Schemes	13.78	0.05	HiTherm	No	
E3 Sill	Non Gov Approved Schemes	6.88	0.02	0.02	RCD	No
E4 Jamb	Non Gov Approved Schemes	37.82	0.02	0.02	RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	29.80	0.11	0.11	RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	17.60	0.07	0.07	RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	20.80	0.05	0.05	RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	29.80	0.00	0.00	RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	12.19	0.10	0.10	RCD	No

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present	Yes
Approved Installation	Yes
Mechanical Ventilation data Type	Database
Type	Mechanical extract ventilation - decentralised
MV Reference Number	500776
Configuration	1
Manufacturer SFP	0.14
Duct Type	Rigid
Wet Rooms	4
SFP from Installer Commissioning Certificate	No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	3
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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																	
21.0 Fixed Cooling System																		
22.0 Pressure Testing	Yes																	
Designed AP ₅₀	4.00																	
Property Tested?	Yes																	
Test Method	Blower Door																	
22.0 Lighting																		
No Fixed Lighting	<table border="1"> <thead> <tr> <th colspan="2">No</th> </tr> <tr> <th>Name</th> <th>Efficacy</th> <th>Power</th> <th>Capacity</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</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	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
No																		
Name	Efficacy	Power	Capacity	Count														
Pendant light	75.00	10.00	750.00	10														
Batten light	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																	
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																	
25.0 Main Heating 2																		
26.0 Heat Networks																		
27.0 Secondary Heating																		
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																	
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

Hot Water Controls Model

HIU

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	9.30	Yes	Instantaneous System 1
2	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
Insulation Thickness Type	50 mm
Insulation Thickness	50
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	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	Kings DET			Issued on Date	25/07/2025
Assessment Reference	001			Prop Type Ref	Kings DET
Property	Kings DET				
SAP Rating	82 B	DER	4.09	TER	11.90
Environmental	96 A	% DER < TER			65.63
CO ₂ Emissions (t/year)	0.37	DFEE	42.56	TFEE	43.51
Compliance Check	See BREL	% DFEE < TFEE			2.20
% DPER < TPER	31.56	DPER	42.57	TPER	62.19

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		28.95 m	49.13 m ²	2.50 m
1st Storey:		28.95 m	49.13 m ²	2.70 m

8.0 Living Area	17.16	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	150.38	123.83	0.00	None	26.55	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	153.05
Block Partitions		Dense block, plasterboard on dabs	75.00	54.23

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	49.13	49.13	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	49.13

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	49.13

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	49.13

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	11.89	0
Rear Windows	Windows	External Wall	South	2.87	0
Patio Doors	Bi-Fold/Patio Door	External Wall	West	3.80	0
Right Side Windows	Windows	External Wall	East	4.78	0
Left Side Windows	Windows	External Wall	West	1.09	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)	Non Gov Approved Schemes	18.25	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	8.63	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	47.70	0.02	0.02 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	28.95	0.11	0.11 RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	18.08	0.07	0.07 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	20.80	0.05	0.05 RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	28.95	0.00	0.00 RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	10.87	0.10	0.10 RCD	No

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

Yes

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500776

Configuration

1

Manufacturer SFP

0.14

Duct Type

Rigid

Wet Rooms

4

SFP from Installer Commissioning Certificate

No

19.1 Mechanical extract ventilation - Decentralised

SFP	Fan/Room Type	Count
0.14	In Room Fan	1
	Kitchen	
0.11	In Room Fan Other	3
	Wet Room	
0.00	In Duct Fan Kitchen	0
0.00	In Duct Fan Other	0
	Wet Room	
0.08	Through Wall Fan	0
	Kitchen	
0.08	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

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															
21.0 Fixed Cooling System	No															
22.0 Pressure Testing	Yes															
Designed AP ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa														
Property Tested?	Yes															
Test Method	Blower Door															
22.0 Lighting																
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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	75.00	10.00	750.00	10												
24.0 Main Heating 1	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															
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															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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

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	Purbeck SD			Issued on Date	25/07/2025					
Assessment Reference	001	Prop Type Ref	Purbeck SD							
Property	Purbeck SD									
SAP Rating	84 B	DER	3.88	TER	11.57					
Environmental	97 A	% DER < TER			66.46					
CO ₂ Emissions (t/year)	0.29	DFEE	36.55	TFEE	36.71					
Compliance Check	See BREL	% DFEE < TFEE			0.43					
% DPER < TPER	32.78	DPER	40.58	TPER	60.37					
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	Rural									
1.0 Property Type	House, Semi-Detached									
Position of Flat	Mid-floor flat									
Which Floor	1									
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 ² K									
7.0 Electricity Tariff	Standard									
Smart electricity meter fitted	Yes									
Smart gas meter fitted	No									
7.0 Measurements										
		Heat Loss Perimeter	Internal Floor Area	Average Storey Height						
	Ground floor: 1st Storey:	18.26 m 18.26 m	40.46 m ² 40.46 m ²	2.50 m 2.70 m						
8.0 Living Area	30.79 m ²									
9.0 External Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	94.97	72.23	0.00	None	22.74	Enter Gross Area
9.1 Party Walls										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Area (m ²)	Shelter Res	Shelter			
Party Wall	Filled Cavity with Edge Sealing	Single plasterboard on dabs both sides, lightweight aggregate blocks, cavity or cavity fill	0.00	110.00	39.32	0.00	None			
9.2 Internal Walls										
Description						Kappa (kJ/m ² K)	Area (m ²)			
Stud Partitions	Plasterboard on timber frame					9.00	159.27			
10.0 External Roofs										
Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation Type	Openings
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	40.46	40.46	None	0.00	Enter Gross Area	0.00
10.2 Internal Ceilings										
Description	Storey	Construction						Area (m ²)		

Summary for Input Data



Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	40.46						
11.0 Heat Loss Floors									
Description	Type	Storey Index	Construction						
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted						
			U-Value (W/m ² K) 0.12						
			Shelter Code None						
			Shelter Factor 0.00						
			Kappa (kJ/m ² K) 75.00						
			Area (m ²) 40.46						
11.2 Internal Floors									
Description	Storey Index	Construction	Kappa (kJ/m ² K) Area (m ²)						
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00 40.46						
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	5.95	0				
Rear Windows	Windows	External Wall	South	3.33	0				
Patio Doors	Bi-Fold/Patio Door	External Wall	South	11.34	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)	Non Gov Approved Schemes	12.08	0.05	0.05	HiTherm	No			
E3 Sill	Non Gov Approved Schemes	6.78	0.02	0.02	RCD	No			
E4 Jamb	Non Gov Approved Schemes	25.20	0.02	0.02	RCD	No			
E5 Ground floor (normal)	Non Gov Approved Schemes	18.26	0.11	0.11	RCD	No			
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	10.70	0.07	0.07	RCD	No			
E16 Corner (normal)	Non Gov Approved Schemes	10.40	0.05	0.05	RCD	No			
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	18.26	0.00	0.00	RCD	No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.56	0.10	0.10	RCD	No			
E18 Party wall between dwellings	Non Gov Approved Schemes	10.40	0.04	0.04	RCD	No			
P1 Party wall - Ground floor	Non Gov Approved Schemes	7.56	0.11	0.11	RCD	No			
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	7.56	0.00	0.00		No			
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	7.56	0.10	0.10	RCD	No			
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								

Summary for Input Data

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 ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

No Fixed Lighting	No				
	Name	Efficacy	Power	Capacity	Count
	Pendant light	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	
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	

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
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
Cylinder Volume	250.00
Loss	1.40
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	
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	Wainwright DET			Issued on Date	25/07/2025
Assessment Reference	001			Prop Type Ref	Wainwright DET
Property	Wainwright DET				
SAP Rating	84 B	DER	3.41	TER	9.34
Environmental	97 A	% DER < TER			63.49
CO ₂ Emissions (t/year)	0.45	DFEE	39.15	TFEE	39.76
Compliance Check	See BREL	% DFEE < TFEE			1.54
% DPER < TPER	27.37	DPER	35.44	TPER	48.79

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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 ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		35.49 m	72.19 m ²	2.50 m
1st Storey:		35.49 m	72.19 m ²	2.70 m

8.0 Living Area	20.05	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	184.43	150.17	0.00	None	34.26	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	255.10
Block Partitions		Dense block, plasterboard on dabs	75.00	44.56

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	72.19	72.19	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)		
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	72.19		

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	72.19

Summary for Input Data

11.2 Internal Floors

Description	Storey Index	Construction	Kappa (kJ/m ² K)	Area (m ²)
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor	9.00	72.19

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20

13.0 Openings

Name	Opening Type	Location	Orientation	Area (m ²)	Pitch
Front Door	Entrance Door	External Wall	North	2.12	0
Front Windows	Windows	External Wall	North	10.98	0
Rear Windows	Windows	External Wall	South	9.54	0
Front Patio Doors	Bi-Fold/Patio Door	External Wall	North	3.80	0
Rear Patio Doors	Bi-Fold/Patio Door	External Wall	South	5.69	0
Side Door	Half Glazed Entrance Door	External Wall	West	2.12	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)	Non Gov Approved Schemes	19.48	0.05	0.05 HiTherm	No
E3 Sill	Non Gov Approved Schemes	8.64	0.02	0.02 RCD	No
E4 Jamb	Non Gov Approved Schemes	48.32	0.02	0.02 RCD	No
E5 Ground floor (normal)	Non Gov Approved Schemes	35.49	0.11	0.11 RCD	No
E10 Eaves (insulation at ceiling level)	Non Gov Approved Schemes	16.56	0.07	0.07 RCD	No
E16 Corner (normal)	Non Gov Approved Schemes	26.00	0.05	0.05 RCD	No
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	35.49	0.00	0.00 RCD	No
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	18.88	0.10	0.10 RCD	No
E17 Corner (inverted – internal area greater than external area)	Non Gov Approved Schemes	5.20	-0.09	-0.09 RCD	No

19.0 Mechanical Ventilation

Mechanical Ventilation

Mechanical Ventilation System Present

Yes

Approved Installation

Yes

Mechanical Ventilation data Type

Database

Type

Mechanical extract ventilation - decentralised

MV Reference Number

500776

Configuration

1

Manufacturer SFP

0.14

Duct Type

Rigid

Wet Rooms

5

SFP from Installer Commissioning Certificate

No

19.1 Mechanical extract ventilation - Decentralised

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

20.0 Fans, Open Fireplaces, Flues

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															
<hr/>																
21.0 Fixed Cooling System	No															
<hr/>																
22.0 Pressure Testing	Yes															
Designed AP ₅₀	4.00															
Property Tested?	Yes															
Test Method	Blower Door															
<hr/>																
22.0 Lighting																
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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	75.00	10.00	750.00	10												
<hr/>																
24.0 Main Heating 1	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															
<hr/>																
25.0 Main Heating 2	None															
<hr/>																
26.0 Heat Networks	None															
<hr/>																
27.0 Secondary Heating	None															
<hr/>																
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															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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

Summary for Input Data



Property Reference	Walbury DET	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Walbury DET
Property	Walbury DET		
SAP Rating	83 B	DER	3.63
Environmental	97 A	% DER < TER	11.15
CO ₂ Emissions (t/year)	0.4	DFEE	67.44
Compliance Check	See BREL	% DFEE < TFEE	39.14
% DPER < TPER	35.17	TPER	39.81
DPER	37.85	TFEE	1.68
			58.38

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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	0.00	kJ/m ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		26.21 m	41.10 m ²	2.50 m
1st Storey:		26.21 m	41.10 m ²	2.70 m
2nd Storey:		25.63 m	38.82 m ²	2.50 m

8.0 Living Area	27.01	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	200.25	173.70	0.00	None	26.55	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	251.67

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	28.26	28.26	None	0.00	Enter Gross Area	0.00
Sloping Ceiling	External Slope Roof	Plasterboard, insulated slope	0.13	9.00	14.67	14.67	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	82.20

11.0 Heat Loss Floors

Summary for Input Data

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)	
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	41.10	
11.2 Internal Floors									
Description	Storey Index	Construction					Kappa (kJ/m ² K)	Area (m ²)	
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor					9.00	82.20	
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	11.15	0				
Rear Windows	Windows	External Wall	South	6.66	0				
Rear Patio Doors	Bi-Fold/Patio Door	External Wall	South	5.67	0				
Side Windows	Windows	External Wall	West	0.96	0				
14.0 Conservatory									
		None							
15.0 Draught Proofing									
		100					%		
16.0 Draught Lobby									
		No							
17.0 Thermal Bridging									
17.1 List of Bridges									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	13.89	0.05	0.05	HiTherm	No			
E3 Sill	Non Gov Approved Schemes	2.50	0.02	0.02	RCD	No			
E4 Jamb	Non Gov Approved Schemes	37.80	0.02	0.02	RCD	No			
E5 Ground floor (normal)	Non Gov Approved Schemes	26.21	0.11	0.11	RCD	No			
E16 Corner (normal)	Non Gov Approved Schemes	30.80	0.05	0.05	RCD	No			
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	51.84	0.00	0.00	RCD	No			
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.18	0.10	0.10	RCD	No			
E11 Eaves (insulation at rafter level)	Non Gov Approved Schemes	15.80	0.02	0.02	RCD	No			
E13 Gable (insulation at rafter level)	Non Gov Approved Schemes	3.68	0.05	0.05	RCD	No			
R6 Flat ceiling	Table K1 - Default	15.80	0.12	0.12		No			
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								
20.0 Fans, Open Fireplaces, Flues									
Number of open chimneys	0								

Summary for Input Data

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	Yes															
Designed AP ₅₀	4.00															
Property Tested?	Yes															
Test Method	Blower Door															
22.0 Lighting																
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>Pendant light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> <tr> <td>Batten light</td> <td>75.00</td> <td>10.00</td> <td>750.00</td> <td>10</td> </tr> </tbody> </table>	Name	Efficacy	Power	Capacity	Count	Pendant light	75.00	10.00	750.00	10	Batten light	75.00	10.00	750.00	10
Name	Efficacy	Power	Capacity	Count												
Pendant light	75.00	10.00	750.00	10												
Batten light	75.00	10.00	750.00	10												
24.0 Main Heating 1	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															
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															
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
Hot Water Controls Model	HIU

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	9.30	Yes	Instantaneous System 1
2	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	50 mm
Insulation Thickness	50
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

Summary for Input Data



Property Reference	Walbury SD	Issued on Date	25/07/2025
Assessment Reference	001	Prop Type Ref	Walbury SD
Property	Walbury SD		
SAP Rating	84 B	DER	3.41
Environmental	97 A	% DER < TER	66.89
CO ₂ Emissions (t/year)	0.38	DFEE	35.27
Compliance Check	See BREL	% DFEE < TFEE	35.72
% DPER < TPER	33.83	DPER	35.58
TPER	53.77		

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	Rural	
1.0 Property Type	House, Detached	
Position of Flat	Mid-floor flat	
Which Floor	1	
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	0.00	kJ/m ² K
7.0 Electricity Tariff	Standard	
Smart electricity meter fitted	Yes	
Smart gas meter fitted	No	

7.0 Measurements		Heat Loss Perimeter	Internal Floor Area	Average Storey Height
Ground floor:		18.30 m	41.10 m ²	2.50 m
1st Storey:		18.30 m	41.10 m ²	2.70 m
2nd Storey:		17.73 m	38.82 m ²	2.50 m

8.0 Living Area	27.01	m ²
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Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Res	Shelter	Openings	Area Calculation Type
External Wall	Timber Frame	Timber framed wall (one layer of plasterboard)	0.18	9.00	139.39	112.84	0.00	None	26.55	Enter Gross Area

9.2 Internal Walls		Construction	Kappa (kJ/m ² K)	Area (m ²)
Stud Partitions		Plasterboard on timber frame	9.00	251.88

Description	Type	Construction	U-Value (W/m ² K)	Kappa (kJ/m ² K)	Gross Area(m ²)	Nett Area (m ²)	Shelter Code	Shelter Factor	Calculation	Openings Type
Cold Roof	External Plane Roof	Plasterboard, insulated at ceiling level	0.11	9.00	28.26	28.26	None	0.00	Enter Gross Area	0.00
Sloping Ceiling	External Slope Roof	Plasterboard, insulated slope	0.13	9.00	14.67	14.67	None	0.00	Enter Gross Area	0.00

Description	Storey	Construction	Area (m ²)
Internal Ceiling 1	Lowest occupied	Plasterboard ceiling, carpeted chipboard floor	82.20

11.0 Heat Loss Floors

Summary for Input Data

Description	Type	Storey Index	Construction	U-Value (W/m ² K)	Shelter Code	Shelter Factor	Kappa (kJ/m ² K)	Area (m ²)	
Ground Floor	Ground Floor - Solid	Lowest occupied	Suspended concrete floor, carpeted	0.12	None	0.00	75.00	41.10	
11.2 Internal Floors									
Description	Storey Index	Construction					Kappa (kJ/m ² K)	Area (m ²)	
Internal Floor 1		Plasterboard ceiling, carpeted chipboard floor					9.00	82.20	
12.0 Opening Types									
Description	Data Source	Type	Glazing	Glazing Gap	Filling Type	G-value	Frame Type	Frame Factor	U Value (W/m ² K)
Windows	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Bi-Fold/Patio Door	BFRC, BSI or CERTASS data	Window	Double Low-E Soft 0.05			0.33		1.00	1.20
Entrance Door	Manufacturer	Solid Door				0.00			1.20
Half Glazed Entrance Door	Manufacturer	Half Glazed Door	Double Low-E Soft 0.1			0.63		0.70	1.20
13.0 Openings									
Name	Opening Type	Location	Orientation	Area (m ²)	Pitch				
Front Door	Entrance Door	External Wall	North	2.12	0				
Front Windows	Windows	External Wall	North	11.15	0				
Rear Windows	Windows	External Wall	South	6.66	0				
Rear Patio Doors	Bi-Fold/Patio Door	External Wall	South	5.67	0				
Side Windows	Windows	External Wall	West	0.96	0				
14.0 Conservatory									
		None							
15.0 Draught Proofing									
		100					%		
16.0 Draught Lobby									
		No							
17.0 Thermal Bridging									
17.1 List of Bridges									
Bridge Type	Source Type	Length	Psi	Adjusted Reference:	Imported				
E2 Other lintels (including other steel lintels)	Non Gov Approved Schemes	13.89	0.05	0.05	HiTherm			No	
E3 Sill	Non Gov Approved Schemes	2.50	0.02	0.02	RCD			No	
E4 Jamb	Non Gov Approved Schemes	37.80	0.02	0.02	RCD			No	
E5 Ground floor (normal)	Non Gov Approved Schemes	18.30	0.11	0.11	RCD			No	
E16 Corner (normal)	Non Gov Approved Schemes	15.40	0.05	0.05	RCD			No	
E6 Intermediate floor within a dwelling	Non Gov Approved Schemes	36.60	0.00	0.00	RCD			No	
E12 Gable (insulation at ceiling level)	Non Gov Approved Schemes	7.18	0.10	0.10	RCD			No	
E11 Eaves (insulation at rafter level)	Non Gov Approved Schemes	7.90	0.02	0.02	RCD			No	
E13 Gable (insulation at rafter level)	Non Gov Approved Schemes	3.68	0.05	0.05	RCD			No	
R6 Flat ceiling	Table K1 - Default	15.80	0.12	0.12				No	
E18 Party wall between dwellings	Non Gov Approved Schemes	15.40	0.04	0.04	RCD			No	
P1 Party wall - Ground floor	Non Gov Approved Schemes	7.90	0.11	0.11	RCD			No	
P2 Party wall - Intermediate floor within a dwelling	Table K1 - Default	15.80	0.00	0.00				No	
P4 Party wall - Roof (insulation at ceiling level)	Non Gov Approved Schemes	7.90	0.10	0.10	RCD			No	
19.0 Mechanical Ventilation									
Mechanical Ventilation									
Mechanical Ventilation System Present	Yes								
Approved Installation	Yes								
Mechanical Ventilation data Type	Database								
Type	Mechanical extract ventilation - decentralised								
MV Reference Number	500776								
Configuration	1								
Manufacturer SFP	0.14								
Duct Type	Rigid								
Wet Rooms	4								
SFP from Installer Commissioning Certificate	No								
19.1 Mechanical extract ventilation - Decentralised									
SFP	Fan/Room Type	Count							
0.14	In Room Fan	1							
	Kitchen								
0.11	In Room Fan Other	3							
	Wet Room								
0.00	In Duct Fan Kitchen	0							
0.00	In Duct Fan Other	0							
	Wet Room								
0.08	Through Wall Fan	0							
	Kitchen								
0.08	Through Wall Fan	0							
	Other Wet Room								

Summary for Input Data

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 ₅₀	4.00	m ³ /(h.m ²) @ 50 Pa
Property Tested?	Yes	
Test Method	Blower Door	

22.0 Lighting

No Fixed Lighting	No				
	Name	Efficacy	Power	Capacity	Count
	Pendant light	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	
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	

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
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
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28.3 Waste Water Heat Recovery System

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Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
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Insulation Thickness Type	50 mm
Insulation Thickness	50
Cylinder Volume	250.00
Loss	1.40
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	
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