



ENERGY + SUSTAINABILITY STATEMENT FORMER DEBENHAMS STORE STAINES

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1.0 Introduction

This report has been prepared on behalf of High Street Living [Staines] Ltd to accompany an application for Planning Consent for the proposed residential development of the former Debenhams Store, Thames Street, Staines.

The development will consist of demolition of the former Debenhams Store and redevelopment of site to provide 226 dwellings (Use Class C3) and commercial units (Use Class E) together with car and cycle parking, hard and soft landscaping, amenity space and other associated infrastructure and works.'

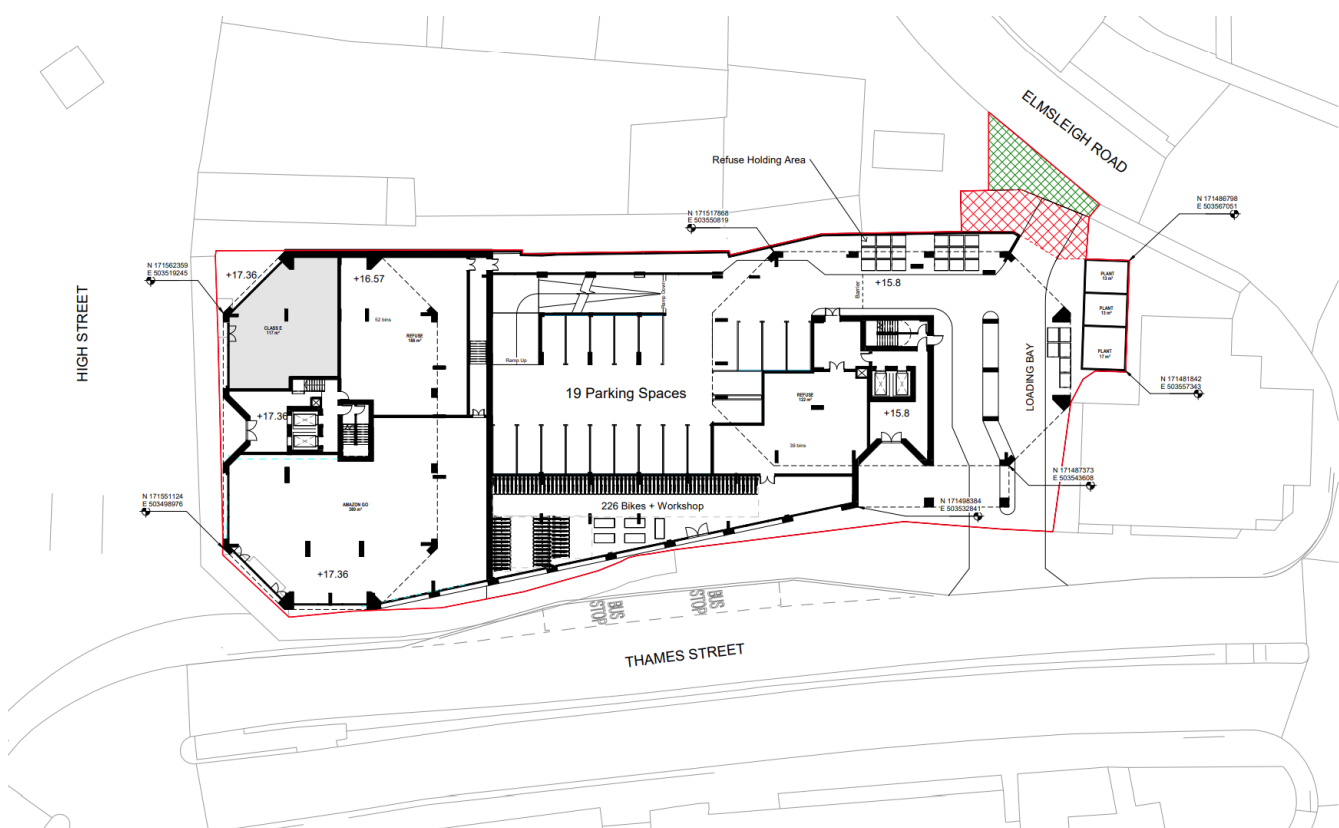
1. Vitec fully audit all work prior to completion and a robust audit trail exists to demonstrate accountability.
2. CPD (Continual Professional Development) records are kept and technicians are required to complete a minimum 20 hours per year in training activities.
3. Low Carbon Consultants have the expertise and necessary qualifications to offer advice in a professional capacity on matters relating to Part L of the Building Regulations and sustainability within the construction sector.

2.0 Document Brief

This document has been produced with the intent of providing a clear and straightforward assessment of the proposed developments sustainability measures, a Low or Zero Carbon (LZC) feasibility appraisal, energy requirements and subsequent CO2 emissions using approved Standard Assessment Procedure (SAP) modelling software as a measure of the building's benchmark, and as proof of the Building Regulations United Kingdom Part L (BRUKL) compliance.

3.0 Proposed Site Location

The proposed redevelopment will take place at the former Debenhams Store, Thames Street, Staines.



4.0 Policy and Legislation

This document has been prepared with consideration to both National and Local Policy Planning Requirements as outlined in the planning policy statements.

National Planning Guidance

- The National Planning Policy Framework 2019
- Planning Practice Guidance
- UK Building Regulations Part L 2013 (Conservation of fuel and power in buildings).

Local Planning Guidance

- Spelthorne Borough Council Core Strategy
- Policy CC1 – Renewable Energy, Energy Conservation + Sustainable Construction
- Strategic Policy SP7 – Climate Change + Transport

Approved Document Building Regulation Part L Summary

The development will comply with building regulation Part L 2013 (Conservation of fuel and power in buildings).

In order to create a benchmark for comparison purposes, this statement first establishes a baseline assessment of the energy demands and associated CO2 emissions for the proposed development.

It is anticipated that the development will be built under Part L (2013) of the Building Regulations.

The estimated annual energy demand for the proposed development has been calculated using the Standard Assessment Procedure (SAP 2012) and Simplified Building Energy Model (SBEM 2013) methodology. SAP calculates the Regulated energy demands associated with hot water, space heating and fixed electrical items. For the residential areas the unregulated dwelling energy demands for appliances and cooking are taken from BRE standard occupancy calculations. SBEM calculates the Regulated energy demands associated with hot water, space heating and fixed electrical items as well as the un-Regulated emissions for the non-residential areas.

Part L (2013) Building Regulations Baseline

For the Residential Units (Part L1A) SAP calculations have been performed on representative dwelling types. These encompass ground, mid and top floor apartments of different sizes and orientations; therefore representing a fair aggregation of the unit mix of the proposed development.

A Part L1A (2013) Building Regulations compliant baseline is used for the development. It requires that the residential block as a whole, meets or exceeds the Target Emission Rate (TER), as well as the new Target Fabric Energy Efficiency (TFEE) this ensures a fabric first approach, reducing demand before considering other options.

Minimising carbon dioxide emissions

Current Planning decisions

Development proposals shall make the fullest contribution to minimising carbon dioxide emissions in accordance with the following energy hierarchy:

- Be lean: use less energy
- Be clean: supply energy efficiently
- Be green: use renewable energy

Proposals shall include a detailed energy assessment to demonstrate how the targets for carbon dioxide emissions reduction outlined above are to be met within the framework of the energy hierarchy.

The carbon dioxide reduction targets shall be met on-site. Where it is clearly demonstrated that the specific targets cannot be fully achieved on-site, any shortfall may be provided off-site or through a cash in lieu contribution to the relevant borough to be ring fenced to secure delivery of carbon dioxide savings elsewhere.

6.0 Review of Proposal in Relation to Environmental Standards

Energy Efficiency

The energy hierarchy principle has been used for the development so that the correct approach to design is taken to promote and energy-efficient low carbon solution. This will ensure that the benefits of lower cost methods of energy use reduction are maximised as a priority. The approach is as follows

- Reduce energy demand – Use passive design measures and optimise the building in terms of orientation, air tightness and insulation levels.
- Meet demands efficiently – Specification of energy efficient plant, heating, ventilation, lighting and controls to enable efficient operation.

The following sections describe how this approach has been implemented in the design for the proposed development.

BE LEAN

Building Fabrics

Building fabrics shall be designed so that they will not exceed but will improve on the regulatory minimums as outlined in the table below, and must be calculated following the guidance in BR443:

By taking a “fabric first” approach to the development it focuses effort on the choice of materials to improve on U values, reduce thermal bridging, improve on air tightness targets, install energy efficient services providing an energy efficient building using less energy and reducing overall CO₂ emissions.

Below indicates current development targets against current regulatory minimum requirements:

Exposed Building Material	Minimum Acceptable Standard	Development Target	% Target Improvement
Windows, Pedestrian Doors	2.20	1.50	32%
External Walls	0.35	0.20	37%
Floors, ground floors	0.25	0.12	52%
Roofs (pitch not exceeding 70deg)	0.25	0.15	40%

As well as these minimum U-Values, the building's air permeability must not exceed 10 m³/ (h.m²) at 50 Pa. for this development the target will be between 3.5 and 4.0 m³/ (h.m²) at 50 Pa, providing a minimum 60% improvement. Over minimum air tightness.

Low Energy Design

Day lighting calculations shall be carried out during the design stage to bring into consideration lighting level reductions by controls.

Dedicated low energy lighting shall be provided for 100% of the internal space, consisting of low energy high efficiency fluorescent lamps and LED luminaires.

Building Energy Consumption

The appointed architect and building service consultants shall design the building with efficient U-Values, heating and lighting systems.

Water Efficiency

Water fittings will be specified to give a balance between low water consumption, performance and cost. This allows the fixtures selected to have a proven track record of reliability, provide performance in line with expectation of residents and to meet architectural aesthetic aspirations.

For the Residential element the design is targeting a consumption of 125 l/p/d as required by Part G of the Building Regulations, 2015 edition with 2016 amendments. To achieve this the following restrictions on sanitaryware appliances and fittings shall be considered to ensure water energy efficiency target per person is achievable:

- WCs 4/2 litres dual flush (maximum 3 litres effective flushing volume)
- Showers ≤ 6 litres/min
- Baths ≤ 170 litres
- Basin taps ≤ 5 litres /min
- Kitchen sink taps ≤ 6 litres/min
- Dishwashers ≤ 1.25 litres/min
- Washing Machines ≤ 8.17 litres/kilogram

Overheating

Minimising the risk of summer overheating is important to ensure buildings are comfortable to occupy and are adaptable to future climate change.

The following measures have been considered to ensure the risk to overheating is minimal.

- Solar glazing, low g-values and high light transmission values for glazing subject to orientation requirements.
- MVHR ventilation within residential apartments.
- Night cooling of corridors via passive smoke ventilation shafts will be considered
- Comfort Cooling to habitable spaces within Tower 1 apartments 3 & 4 and Tower 2 apartments 4,5,6 & 7 on Thames Street elevation due windows no being able to be openable form natural purge ventilation due to air quality concerns.

A CIBSE TM59 overheating has been undertaken for the proposed development please refer to Appendix B

BE GREEN

Feasibility of Renewable Technologies

An initial assessment has been carried out to determine which technologies are technically feasible on the site. For technologies which are identified as feasible, the following factors have been considered to determine which technologies are appropriate in terms of economic and local planning feasibility:

- Energy generated from each LZC energy source per year
- Payback
- Land Use
- Local Planning Criteria
- Noise
- Life cycle cost/lifecycle impact of the potential specification in terms of carbon emissions
- Any available grants

Solar Panels

The table below summarises the desktop study undertaken to determine the feasibility of solar photovoltaic panels at the site:

Key considerations of solar technology

Technology	Criteria	Requirement met?
Photovoltaic panels		
Roof orientation	Are available roofs facing south-west to south-east (through south), or flat?	✓
Roof space	Is there enough un-shaded roof area?	x
Electrical demand	Is there electrical demand on site?	✓

Technology	Criteria	Requirement met?
Solar Thermal		
Roof orientation	Are available roofs facing south-west to south-east (through south), or flat?	✓
Roof space	Is there enough un-shaded roof area?	x
Hot water demand	Is there year-round hot water demand?	✓
Heating system	Would a solar thermal collector be compatible with the proposed heating system?	✓
Hot water storage	Is there space for a hot water storage vessel?	✓
Conflicts with other systems?	Will solar thermal conflict with other systems (e.g. PV) which are higher up the energy hierarchy?	x

Heat Pumps

The table below summarises the desktop study undertaken to determine the feasibility of heat pumps at the site:

Key considerations of heat pump technology

Technology	Criteria	Requirement met?
Heat distribution system	Is it possible to have a low-grade distribution system e.g. under floor heating?	✓
Heat distribution system	Is it compatible with the proposed cooling system?	✓
Ground-source Heat Pump		
Ground conditions	Has a basic ground study concluded that the site is suitable for GSHP?	-
Horizontal piping	Is there a large area of open land where horizontal piping could be installed?	x
Vertical piping	Is the ground suitable for vertical piping? Can underground obstacles be avoided? Constrained by archaeological implications.	x
Plant room	Is there space allowed for a GSHP and associated auxiliary equipment?	x

Water-source Heat Pump (River or Lake)		
Resource	Is there an available water source close to the site?	x
Access	Can the available water source be accessed?	x
Centralised Air Source Heat Pump		
Roof space	Is there available roof space for air-source heat pumps? Extensive study has been undertaken regarding potential use of air source heat pumps as it was initially the preferred system, unfortunately detailed development of this option indicated both visual and noise impact issues.	x
Electrical Capacity	Is there sufficient electrical capacity for air-sourced heat pumps	✓
De-centralised Air Source Heat Pump		
Utility Cupboard space	Is there available space for air-source heat pump hot water cylinders in each apartment?	✓
Electrical Capacity	Is there sufficient electrical capacity for air-sourced heat pumps	✓

Wind Turbines

The table below summarises the desktop study undertaken to determine the feasibility of either roof mounted or standalone wind turbines at the site:

Key considerations of wind technology

Technology	Criteria	Requirement met?
Stand-alone Wind Turbine		
Wind speed	Is average wind speed greater than 6m/s at hub height?	-
Clear air flow to turbine	Is the area free from obstructions that could cause turbulence?	x
Open land around proposed site	Is there sufficient open land for a turbine to be installed?	x
Distance to nearest property	Are surrounding properties far away enough to avoid noise disturbance?	x

Biofuel Community Heating Scheme

Wood chips / pellets would require many deliveries and storage, not compatible with a city centre location. Liquid biofuel requires less storage space and has been considered in further detail by the design team.

The biodiesel is typically tested against EN14214 and supplied as pure Biodiesel at B100. Certain suppliers have plans to supply liquid biodiesel to sites around London via tanker. The tanker is anticipated to be sized to hold between 3,000 and 5,000 litres per delivery. Once delivered, the fuel would be pumped to a holding tank onsite, so the location of this tank would need to be accommodated which is not possible within this concentrated site.

The table below summarises the desktop study undertaken to determine the feasibility of a biofuel heating scheme at the site.

Key considerations of biofuel technology

Technology	Criteria	Requirement met?
Wood Biomass		
Heat demand	Is there a year-round heat demand?	X
Supply chain	Is there an established supply chain in the local area?	-
Delivery logistics	Is the site accessible for deliveries? Is there sufficient space for a supply vehicle to access a biomass storage tank?	X
Storage	Is there sufficient space for fuel storage to allow a reasonable number of deliveries?	X
Plant room	Is there sufficient space for a biofuel boiler and associated auxiliary equipment?	X
Flue	Can the flue be designed to meet planning authority requirements?	-
Liquid Biofuel		
Heat demand	Is there a year-round heat demand?	X
Supply chain	Is there an established supply chain in the local area? And can the required quantities of biofuel be guaranteed?	-
Security of supply	Is the future supply of biofuel guaranteed?	-
Delivery logistics	Is the site accessible for deliveries? Is there sufficient space for a supply vehicle to access a biofuel storage tank?	X
Storage	Is there sufficient space for fuel storage to allow a reasonable number of deliveries?	X
Running costs	Are the high running costs acceptable?	-

During pre-app reviews it was advised EHO is not keen on CHP due to air quality issues.

Fuel Cells

The primary fuel source for fuel cells is hydrogen. This can be obtained (using a reformer) from a wide range of fuel supplies including natural gas, coal gas, methanol, landfill gas and other fuels containing hydrogen.

Fuel cells produce zero emissions (at the point of use) when running on pure hydrogen. However most building applications to date have involved the use of carbon-based fuels (primarily natural gas) requiring the use of a reformer. A consequence of the reforming process is the emission of carbon dioxide, although

emissions are still lower than conventional combustion processes due to the higher operating efficiency of the fuel cell.

The efficiencies of fuel-cell plants are in the range of 40 to 55% (electrical power generation) and waste heat is generated making it a co-generation energy source.

There is not currently a hydrogen network in the area, although there is a very good natural gas infrastructure hence most fuel cells operate using natural gas. Analysis has shown that the carbon savings realised from gas fired CHP outweigh those from a hydrogen fuel cell that is powered by natural gas due to the conversion process from gas to hydrogen. The table below summarises the desktop study undertaken to determine the feasibility of fuel cell technology at the site:

Key considerations of fuel cell technology

Technology	Criteria	Requirement met?
Fuel Cells		
Fuel Supply	Is there a source of hydrogen available?	X
Fuel Supply	Is there an alternate fuel source available?	X
Plant room	Is there space allowed for a fuel cell and associated auxiliary equipment?	X

District Heating Network

The table below summarises the desktop study undertaken to determine the feasibility of connection to a Districted Heating Network

Key considerations

Technology	Criteria	Requirement Met?
District Heating Network		
Availability	Following consultation with, Project Officer Sustainable Energy, we have been advised that there is no DHN available	-X
Connection Details	Connection details for the District Heating Network are currently unknown.	X
Tariffs, Metering & Contracts	Tariffs, metering and contracts are unknown.	X
Tariff Competition	Advised a single source supplier, which limits the ability for tenants and owners to freely obtain their own competitive energy suppliers.	X
Design Parameters and criteria	Design criteria such as flow and return temperatures and pressure requirements are unknown, District Heating Networks often have strict return temperature criteria, and if there is low demand a method of dissipating return temperatures and safeguarding is required.	X
Energy & Carbon savings	Potential energy efficiency and carbon savings are unknown. Suggested up to 80% carbon savings	-
Plant Space	Additional plant space for central heating and hot water plant would be required, plant space required to meet the design criteria set by the District Heating Network is unknown due to the design criteria being unknown.	X
Service connection and legal	Service network routing is unknown and therefore any considerations to wayleave allowance and legal requirement for the service routing in to the building is unknown.	X

Implications on development	The system requires the development to have central heating & hot water plant distributed throughout the building, which would increase the building having overheating issues from the LTHW distribution through risers and corridors and would therefore increase the requirement for improved insulation and possibly additional cooling measures and significant costs. An interim system such as gas fired central plant or ASHP central plant until such a time as the District Heating System, this has cost implications now and when the District Heating System becomes available.	x
Pollution	If the District Heating System is gas fired and or CHP generation which increases both NOx emissions and particulates as opposed to an all-electric solution.	x
Management & Maintenance	Having to connect to a future District Heating Network limits the heating & hot water solutions to a centralised system which has significant additional metering requirements, building management requirements and maintenance requirements as opposed to a decentralised all electric heating & hot water solution.	x

Based on the above key consideration District Heating Network is not feasible for this scheme.

7.0 Conclusion

Scheme Proposed Strategy

Taking into consideration the above criteria and LZC feasibility, the scheme is proposing, together with the National and Local Planning Policies the development scheme proposed strategy is:

Decentralised standalone apartment ASHP Hot Water Cylinders for Residential Apartments.

Decentralised Point of use electric hot water for amenity spaces.

Decentralised MVHR Ventilation

Decentralised MVHR for amenity spaces

Electric Panel Heaters with thermostat and timeclock control

Initial Part L2A calculations have been carried out at both baseline and final design strategy in order to demonstrate predicted energy saving and predicted carbon savings together with overall compliance with Planning Policies.

Energy Demand:

Summary Table	Regulated Energy Demand (MWh/year)		
	Domestic	Non-Residential	Sitewide
Total Baseline (Building Regulations 2013)	593.26	89.53	682.78
Development Energy Strategy	425.66	83.11	508.77
Reduction Achieved	28.25%	7.17%	25.49%

Carbon Emissions:

Summary Table (SAP9)	Regulated CO2 Emissions (tonnes/year)		
	Domestic	Non-Residential	Sitewide
Total Baseline (Building Regulations 2013)	307.9	46.46	354.36
Development Energy Strategy	220.92	43.13	264.05
Reduction Achieved	28.25%	7%	25%

APPENDIX A – INITIAL PART L1A RESIDENTIAL SUMMARY COMPLIANCE REPORTS

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 01Level 007	Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref	
Property	A 01 007, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	86 B	DER	20.88	TER	27.56
Environmental	87 B	% DER<TER	24.25		
CO ₂ Emissions (t/year)	0.77	DFEE	41.90	TFEE	44.37
General Requirements Compliance	Pass	% DFEE<TFEE	5.57		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	27.56	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	20.88	kgCO ₂ /m ²	Pass
	-6.68 (-24.2%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	44.37	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	41.90	kWh/m ² /yr	
	-2.5 (-5.6%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

11.61 m², No overhang

Windows facing West

3.30 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 02Level 001			Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref			
Property	A 02 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 02Level 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	A 02 002, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	84 B	DER	20.11
Environmental	86 B	TER	24.93
CO ₂ Emissions (t/year)	0.98	% DER<TER	19.33
General Requirements Compliance	Pass	DfEE	41.89
		TfEE	42.68
		% DfEE<TfEE	1.86
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TfEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.93	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	20.11	kgCO ₂ /m ²	Pass
	-4.82 (-19.3%)	kgCO ₂ /m ²	

1b TfEE and DfEE

Target Fabric Energy Efficiency (TfEE)	42.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DfEE)	41.89	kWh/m ² /yr	
	-0.8 (-1.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

8.34 m², No overhang

Windows facing South East

8.37 m², No overhang

Windows facing South

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 02Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	A 02 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 02Level 004		Issued on Date	28/10/2021	
Assessment Reference	004	Prop Type Ref			
Property	A 02 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 02Level 005			Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref			
Property	A 02 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 02Level 006			Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref			
Property	A 02 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 02Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 02 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 02Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	A 02 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.76
Environmental	89 B	TER	24.96
CO ₂ Emissions (t/year)	0.65	% DER<TER	28.85
General Requirements Compliance	Fail	DFEE	35.92
		TFEE	35.73
		% DFEE<TFEE	-0.53
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 03Level 001			Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref			
Property	A 03 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system
Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 03Level 002		Issued on Date	28/10/2021	
Assessment Reference	002	Prop Type Ref			
Property	A 03 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 03Level 003			Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref			
Property	A 03 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO ₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 03Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 03 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO ₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 03Level 005				Issued on Date	28/10/2021
Assessment Reference	005			Prop Type Ref		
Property	A 03 005, High Street, STAINES-UPON-THAMES, TW18 4DY					
SAP Rating	88 B	DER	16.05	TER	21.50	
Environmental	89 B	% DER<TER	25.35			
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24	
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33			
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com				Assessor ID	T575-0001
Client						

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 03Level 006			Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref			
Property	A 03 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 03Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 03 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 03Level 008			Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref			
Property	A 03 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 04Level 001			Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref			
Property	A 04 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system
Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 04Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	A 04 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 04Level 003	Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref	
Property	A 04 003, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO ₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 04Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 04 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO ₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 04Level 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	A 04 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 04Level 006			Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref			
Property	A 04 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 04Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 04 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 04Level 008			Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref			
Property	A 04 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 05Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	A 05 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 05Level 002		Issued on Date	28/10/2021	
Assessment Reference	002		Prop Type Ref		
Property	A 05 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 05Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	A 05 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 05Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 05 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO ₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 05Level 005			Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref			
Property	A 05 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 05Level 006			Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref			
Property	A 05 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.96 m², No overhang

Windows facing West

8.34 m², No overhang

Windows facing North West

8.37 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 05Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 05 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 05Level 008			Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref			
Property	A 05 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 06Level 001			Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref			
Property	A 06 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 06Level 002				Issued on Date	28/10/2021
Assessment Reference	002			Prop Type Ref		
Property	A 06 002, High Street, STAINES-UPON-THAMES, TW18 4DY					
SAP Rating	88 B	DER	16.05	TER	21.50	
Environmental	89 B	% DER<TER	25.35			
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24	
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33			
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com				Assessor ID	T575-0001
Client						

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 06Level 003			Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref			
Property	A 06 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO ₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 06Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 06 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO ₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 06Level 005			Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref			
Property	A 06 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 06Level 006			Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref			
Property	A 06 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 06Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 06 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 06Level 008			Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref			
Property	A 06 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 07Level 001			Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref			
Property	A 07 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 07Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	A 07 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 07Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	A 07 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system
Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 07Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 07 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO ₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 07Level 005		Issued on Date	28/10/2021	
Assessment Reference	005		Prop Type Ref		
Property	A 07 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 07Level 006			Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref			
Property	A 07 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.96 m², No overhang

Windows facing West

8.34 m², No overhang

Windows facing North West

8.37 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 07Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 07 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 07Level 008			Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref			
Property	A 07 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 08Level 001			Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref			
Property	A 08 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 08Level 002		Issued on Date	28/10/2021	
Assessment Reference	002	Prop Type Ref			
Property	A 08 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 08Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	A 08 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 08Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 08 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO ₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Slight

Pass

Based on:

Overshading

Average

Windows facing South

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 08Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	A 08 005, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 08Level 006				Issued on Date	28/10/2021
Assessment Reference	006			Prop Type Ref		
Property	A 08 006, High Street, STAINES-UPON-THAMES, TW18 4DY					
SAP Rating	86 B	DER	17.75	TER	22.60	
Environmental	88 B	% DER<TER	21.47			
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27	
General Requirements Compliance	Pass	% DFEE<TFEE	0.82			
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com				Assessor ID	T575-0001
Client						

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 08Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 08 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 08Level 008			Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref			
Property	A 08 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 09Level 001				Issued on Date	28/10/2021
Assessment Reference	001			Prop Type Ref		
Property	A 09 001, High Street, STAINES-UPON-THAMES, TW18 4DY					
SAP Rating	86 B	DER	17.75	TER	22.60	
Environmental	88 B	% DER<TER	21.47			
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27	
General Requirements Compliance	Pass	% DFEE<TFEE	0.82			
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com				Assessor ID	T575-0001
Client						

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 09Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	A 09 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 09Level 003			Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref			
Property	A 09 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO ₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 09Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 09 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO ₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 09Level 005		Issued on Date	28/10/2021	
Assessment Reference	005		Prop Type Ref		
Property	A 09 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 09Level 006			Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref			
Property	A 09 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 09Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 09 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 09Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	A 09 008, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 10Level 001				Issued on Date	28/10/2021
Assessment Reference	001			Prop Type Ref		
Property	A 10 001, High Street, STAINES-UPON-THAMES, TW18 4DY					
SAP Rating	86 B	DER	17.75	TER	22.60	
Environmental	88 B	% DER<TER	21.47			
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27	
General Requirements Compliance	Pass	% DFEE<TFEE	0.82			
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com				Assessor ID	T575-0001
Client						

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 10Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	A 10 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO ₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 10Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	A 10 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.03	TER	20.48
Environmental	92 A	% DER<TER	41.26		
CO₂ Emissions (t/year)	0.54	DFEE	23.15	TFEE	23.68
General Requirements Compliance	Pass	% DFEE<TFEE	2.23		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.03	kgCO ₂ /m ²	Pass
	-8.45 (-41.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.15	kWh/m ² /yr	
	-0.6 (-2.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 10Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 10 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	10.72	TER	19.24
Environmental	93 A	% DER<TER	44.27		
CO ₂ Emissions (t/year)	0.51	DFEE	19.58	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-5.17		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.72	kgCO ₂ /m ²	Pass
	-8.52 (-44.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	19.58	kWh/m ² /yr	
Excess energy	1.0 (5.4%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Slight

Pass

Based on:

Overshading

Average

Windows facing South

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 10Level 005		Issued on Date	28/10/2021	
Assessment Reference	005		Prop Type Ref		
Property	A 10 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 10Level 006		Issued on Date	28/10/2021	
Assessment Reference	006	Prop Type Ref			
Property	A 10 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 10Level 007		Issued on Date	28/10/2021	
Assessment Reference	007		Prop Type Ref		
Property	A 10 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 10Level 008			Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref			
Property	A 10 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.76	TER	24.96
Environmental	89 B	% DER<TER	28.85		
CO ₂ Emissions (t/year)	0.65	DFEE	35.92	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-0.53		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-7.20 (-28.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.92	kWh/m ² /yr	
Excess energy	0.2 (0.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

11.61 m², No overhang

Windows facing West

3.30 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 11Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	A 11 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 11Level 002		Issued on Date	28/10/2021	
Assessment Reference	002		Prop Type Ref		
Property	A 11 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 11Level 003			Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref			
Property	A 11 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.81	TER	21.35
Environmental	92 A	% DER<TER	39.99		
CO ₂ Emissions (t/year)	0.57	DFEE	24.78	TFEE	27.79
General Requirements Compliance	Pass	% DFEE<TFEE	10.85		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.35	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.81	kgCO ₂ /m ²	Pass
	-8.54 (-40.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	27.79	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.78	kWh/m ² /yr	
	-3.0 (-10.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 11Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 11 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.81	TER	21.35
Environmental	92 A	% DER<TER	39.99		
CO ₂ Emissions (t/year)	0.57	DFEE	24.78	TFEE	27.79
General Requirements Compliance	Pass	% DFEE<TFEE	10.85		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.35	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.81	kgCO ₂ /m ²	Pass
	-8.54 (-40.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	27.79	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.78	kWh/m ² /yr	
	-3.0 (-10.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 11Level 005		Issued on Date	28/10/2021	
Assessment Reference	005		Prop Type Ref		
Property	A 11 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.05	TER	21.50
Environmental	89 B	% DER<TER	25.35		
CO₂ Emissions (t/year)	0.77	DFEE	33.85	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-8.33		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.05	kgCO ₂ /m ²	Pass
	-5.45 (-25.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.85	kWh/m ² /yr	
Excess energy	2.6 (8.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 11Level 006				Issued on Date	28/10/2021
Assessment Reference	006			Prop Type Ref		
Property	A 11 006, High Street, STAINES-UPON-THAMES, TW18 4DY					
SAP Rating	86 B	DER	17.75	TER	22.60	
Environmental	88 B	% DER<TER	21.47			
CO ₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27	
General Requirements Compliance	Pass	% DFEE<TFEE	0.82			
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com				Assessor ID	T575-0001
Client						

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.96 m², No overhang

Windows facing West

8.34 m², No overhang

Windows facing North West

8.37 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 11Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 11 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	18.05	TER	25.21
Environmental	89 B	% DER<TER	28.40		
CO ₂ Emissions (t/year)	0.66	DFEE	36.49	TFEE	36.57
General Requirements Compliance	Pass	% DFEE<TFEE	0.20		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.21	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.05	kgCO ₂ /m ²	Pass
	-7.16 (-28.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.57	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.49	kWh/m ² /yr	
	-0.1 (-0.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

11.61 m², No overhang

Windows facing East

3.30 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 11Level 008		Issued on Date	28/10/2021	
Assessment Reference	008	Prop Type Ref			
Property	A 11 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	18.04	TER	25.20
Environmental	89 B	% DER<TER	28.41		
CO₂ Emissions (t/year)	0.66	DFEE	36.47	TFEE	36.53
General Requirements Compliance	Pass	% DFEE<TFEE	0.18		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.04	kgCO ₂ /m ²	Pass
	-7.16 (-28.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.53	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.47	kWh/m ² /yr	
	0.0 (0.0%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

11.61 m², No overhang

Windows facing West

3.30 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 12Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	A 12 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.75	TER	22.60
Environmental	88 B	% DER<TER	21.47		
CO₂ Emissions (t/year)	0.91	DFEE	36.96	TFEE	37.27
General Requirements Compliance	Pass	% DFEE<TFEE	0.82		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.75	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.96	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 12Level 002		Issued on Date	28/10/2021	
Assessment Reference	001		Prop Type Ref		
Property	A 12 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	87 B	DER	16.18	TER	21.38
Environmental	89 B	% DER<TER	24.33		
CO₂ Emissions (t/year)	0.84	DFEE	33.92	TFEE	33.21
General Requirements Compliance	Fail	% DFEE<TFEE	-2.15		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.38	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.18	kgCO ₂ /m ²	Pass
	-5.20 (-24.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.21	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.92	kWh/m ² /yr	
Excess energy	0.7 (2.1%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing East

Windows facing South East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 12Level 003	Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref	
Property	A 12 003, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	91 B	DER	12.68	TER	21.65
Environmental	92 A	% DER<TER	41.44		
CO ₂ Emissions (t/year)	0.50	DFEE	25.21	TFEE	24.33
General Requirements Compliance	Fail	% DFEE<TFEE	-3.59		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.65	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.68	kgCO ₂ /m ²	Pass
	-8.97 (-41.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.33	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	25.21	kWh/m ² /yr	
Excess energy	0.9 (3.7%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 12Level 004			Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref			
Property	A 12 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.68	TER	21.65
Environmental	92 A	% DER<TER	41.44		
CO ₂ Emissions (t/year)	0.50	DFEE	25.21	TFEE	24.33
General Requirements Compliance	Fail	% DFEE<TFEE	-3.59		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.65	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.68	kgCO ₂ /m ²	Pass
	-8.97 (-41.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.33	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	25.21	kWh/m ² /yr	
Excess energy	0.9 (3.7%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South East

5.52 m², No overhang

Windows facing South

7.02 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 12Level 005		Issued on Date	28/10/2021	
Assessment Reference	005		Prop Type Ref		
Property	A 12 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	15.27	TER	20.66
Environmental	89 B	% DER<TER	26.07		
CO₂ Emissions (t/year)	0.80	DFEE	32.17	TFEE	30.80
General Requirements Compliance	Fail	% DFEE<TFEE	-4.47		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.66	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.27	kgCO ₂ /m ²	Pass
	-5.39 (-26.1%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.80	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.17	kWh/m ² /yr	
Excess energy	1.4 (4.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 12Level 006		Issued on Date	28/10/2021	
Assessment Reference	006	Prop Type Ref			
Property	A 12 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	17.76	TER	22.61
Environmental	88 B	% DER<TER	21.44		
CO₂ Emissions (t/year)	0.91	DFEE	36.97	TFEE	37.28
General Requirements Compliance	Pass	% DFEE<TFEE	0.84		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.61	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.76	kgCO ₂ /m ²	Pass
	-4.85 (-21.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.28	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.97	kWh/m ² /yr	
	-0.3 (-0.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system
Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

Air permeability m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 12Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 12 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	16.58	TER	24.95
Environmental	90 B	% DER<TER	33.54		
CO ₂ Emissions (t/year)	0.60	DFEE	33.22	TFEE	35.75
General Requirements Compliance	Pass	% DFEE<TFEE	7.07		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.95	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.58	kgCO ₂ /m ²	Pass
	-8.37 (-33.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.75	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.22	kWh/m ² /yr	
	-2.6 (-7.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

7.02 m², No overhang

Windows facing North East

5.46 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 12Level 008			Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref			
Property	A 12 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	16.58	TER	24.95
Environmental	90 B	% DER<TER	33.54		
CO ₂ Emissions (t/year)	0.60	DFEE	33.22	TFEE	35.75
General Requirements Compliance	Pass	% DFEE<TFEE	7.07		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.95	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.58	kgCO ₂ /m ²	Pass
	-8.37 (-33.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.75	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.22	kWh/m ² /yr	
	-2.6 (-7.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

7.02 m², No overhang

Windows facing North West

5.46 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 13Level 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	A 13 001, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	83 B	DER	21.36	TER	26.52
Environmental	85 B	% DER<TER	19.45		
CO ₂ Emissions (t/year)	1.12	DFEE	44.00	TFEE	50.13
General Requirements Compliance	Pass	% DFEE<TFEE	12.22		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.52	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.36	kgCO ₂ /m ²	Pass
	-5.16 (-19.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	50.13	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	44.00	kWh/m ² /yr	
	-6.1 (-12.2%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.96 m², No overhang

Windows facing North East

8.37 m², No overhang

Windows facing East

8.34 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 13Level 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	A 13 002, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	85 B	DER	18.67
Environmental	87 B	TER	24.32
CO ₂ Emissions (t/year)	0.98	% DER<TER	23.22
General Requirements Compliance	Pass	DFEE	38.90
		TFEE	42.93
		% DFEE<TFEE	9.40
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.32	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.67	kgCO ₂ /m ²	Pass
	-5.65 (-23.2%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	42.93	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	38.90	kWh/m ² /yr	
	-4.0 (-9.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

8.34 m², No overhang

Windows facing South East

8.37 m², No overhang

Windows facing South

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 13Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	A 13 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	90 B	DER	14.19	TER	23.34
Environmental	91 B	% DER<TER	39.20		
CO₂ Emissions (t/year)	0.55	DFEE	28.39	TFEE	30.16
General Requirements Compliance	Pass	% DFEE<TFEE	5.86		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.34	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.19	kgCO ₂ /m ²	Pass
	-9.15 (-39.2%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.16	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	28.39	kWh/m ² /yr	
	-1.8 (-6.0%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

7.02 m², No overhang

Windows facing South West

5.52 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 13Level 004		Issued on Date	28/10/2021	
Assessment Reference	004	Prop Type Ref			
Property	A 13 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	90 B	DER	14.19	TER	23.34
Environmental	91 B	% DER<TER	39.20		
CO₂ Emissions (t/year)	0.55	DFEE	28.39	TFEE	30.16
General Requirements Compliance	Pass	% DFEE<TFEE	5.86		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.34	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.19	kgCO ₂ /m ²	Pass
	-9.15 (-39.2%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.16	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	28.39	kWh/m ² /yr	
	-1.8 (-6.0%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South East

5.52 m², No overhang

Windows facing South

7.02 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 13Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	A 13 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	85 B	DER	18.67
Environmental	87 B	TER	24.32
CO ₂ Emissions (t/year)	0.98	% DER<TER	23.23
General Requirements Compliance	Pass	DFEE	38.91
		TFEE	42.95
		% DFEE<TFEE	9.41
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.32	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.67	kgCO ₂ /m ²	Pass
	-5.65 (-23.2%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	42.95	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	38.91	kWh/m ² /yr	
	-4.0 (-9.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.96 m², No overhang

Windows facing South West

8.37 m², No overhang

Windows facing West

8.34 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 13Level 006		Issued on Date	28/10/2021	
Assessment Reference	006		Prop Type Ref		
Property	A 13 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	83 B	DER	21.37	TER	26.52
Environmental	85 B	% DER<TER	19.42		
CO₂ Emissions (t/year)	1.12	DFEE	44.01	TFEE	50.15
General Requirements Compliance	Pass	% DFEE<TFEE	12.24		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.52	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.37	kgCO ₂ /m ²	Pass
	-5.15 (-19.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	50.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	44.01	kWh/m ² /yr	
	-6.1 (-12.2%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.96 m², No overhang

Windows facing West

8.34 m², No overhang

Windows facing North West

8.37 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 13Level 007			Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref			
Property	A 13 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	18.01	TER	26.81
Environmental	89 B	% DER<TER	32.82		
CO ₂ Emissions (t/year)	0.66	DFEE	35.99	TFEE	42.05
General Requirements Compliance	Pass	% DFEE<TFEE	14.41		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.81	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.01	kgCO ₂ /m ²	Pass
	-8.80 (-32.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	42.05	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.99	kWh/m ² /yr	
	-6.1 (-14.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

7.02 m², No overhang

Windows facing North East

5.52 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 13Level 008		Issued on Date	28/10/2021	
Assessment Reference	008	Prop Type Ref			
Property	A 13 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	18.01	TER	26.81
Environmental	89 B	% DER<TER	32.82		
CO₂ Emissions (t/year)	0.66	DFEE	35.99	TFEE	42.05
General Requirements Compliance	Pass	% DFEE<TFEE	14.41		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.81	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.01	kgCO ₂ /m ²	Pass
	-8.80 (-32.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	42.05	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.99	kWh/m ² /yr	
	-6.1 (-14.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

7.02 m², No overhang

Windows facing North West

5.52 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 14Level 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	A 14 001, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	76 C	DER	28.40	TER	29.27
Environmental	79 C	% DER<TER	2.98		
CO ₂ Emissions (t/year)	1.60	DFEE	61.63	TFEE	59.44
General Requirements Compliance	Fail	% DFEE<TFEE	-3.69		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.27	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	28.40	kgCO ₂ /m ²	Pass
	-0.87 (-3.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	59.44	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	61.63	kWh/m ² /yr	
Excess energy	2.2 (3.7%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

20.82 m², No overhang

Windows facing North East

13.98 m², No overhang

Windows facing East

6.90 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 14Level 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	A 14 002, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	81 B	DER	21.82	TER	25.67
Environmental	83 B	% DER<TER	15.00		
CO ₂ Emissions (t/year)	1.24	DFEE	50.09	TFEE	47.76
General Requirements Compliance	Fail	% DFEE<TFEE	-4.87		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.67	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.82	kgCO ₂ /m ²	Pass
	-3.85 (-15.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.76	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	50.09	kWh/m ² /yr	
Excess energy	2.3 (4.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

6.90 m², No overhang

Windows facing South East

13.98 m², No overhang

Windows facing South

20.82 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 14Level 003			Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref			
Property	A 14 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	81 B	DER	21.82	TER	25.67
Environmental	83 B	% DER<TER	15.00		
CO ₂ Emissions (t/year)	1.24	DFEE	50.09	TFEE	47.76
General Requirements Compliance	Fail	% DFEE<TFEE	-4.87		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.67	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.82	kgCO ₂ /m ²	Pass
	-3.85 (-15.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.76	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	50.09	kWh/m ² /yr	
Excess energy	2.3 (4.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

20.82 m², No overhang

Windows facing South West

13.98 m², No overhang

Windows facing West

6.90 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	A 14Level 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	A 14 004, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	76 C	DER	28.40	TER	29.27
Environmental	79 C	% DER<TER	2.98		
CO ₂ Emissions (t/year)	1.60	DFEE	61.63	TFEE	59.44
General Requirements Compliance	Fail	% DFEE<TFEE	-3.69		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.27	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	28.40	kgCO ₂ /m ²	Pass
	-0.87 (-3.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	59.44	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	61.63	kWh/m ² /yr	
Excess energy	2.2 (3.7%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	3.90 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

20.82 m², No overhang

Windows facing West

6.90 m², No overhang

Windows facing North West

13.98 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

3.90 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Air permeability

3.9

m³/m²h

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 01Level 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	B 01 001, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	87 B	DER	18.03
Environmental	88 B	TER	24.97
CO ₂ Emissions (t/year)	0.79	% DER<TER	27.80
General Requirements Compliance	Pass	DFEE	34.99
		TFEE	39.99
		% DFEE<TFEE	12.51
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.97	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.03	kgCO ₂ /m ²	Pass
	-6.94 (-27.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	39.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.99	kWh/m ² /yr	
	-5.0 (-12.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 01Level 002		Issued on Date	28/10/2021	
Assessment Reference	002	Prop Type Ref			
Property	B 01 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	15.18	TER	23.01
Environmental	90 B	% DER<TER	34.02		
CO₂ Emissions (t/year)	0.66	DFEE	29.41	TFEE	33.42
General Requirements Compliance	Pass	% DFEE<TFEE	11.99		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.01	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.18	kgCO ₂ /m ²	Pass
	-7.83 (-34.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.42	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	29.41	kWh/m ² /yr	
	-4.0 (-12.0%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 01Level 003	Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref	
Property	B 01 003, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	86 B	DER	18.33
Environmental	87 B	TER	23.42
CO ₂ Emissions (t/year)	0.89	% DER<TER	21.74
General Requirements Compliance	Fail	DFEE	38.04
		TFEE	37.39
		% DFEE<TFEE	-1.73
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.42	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.33	kgCO ₂ /m ²	Pass
	-5.09 (-21.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.39	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	38.04	kWh/m ² /yr	
Excess energy	0.6 (1.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

3.96 m², No overhang

Windows facing South East

8.37 m², No overhang

Windows facing South

8.34 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 01Level 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	B 01 004, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	86 B	DER	17.46	TER	22.45
Environmental	87 B	% DER<TER	22.23		
CO ₂ Emissions (t/year)	0.92	DFEE	36.19	TFEE	36.55
General Requirements Compliance	Pass	% DFEE<TFEE	0.99		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com	Assessor ID	T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.45	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.46	kgCO ₂ /m ²	Pass
	-4.99 (-22.2%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.55	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.19	kWh/m ² /yr	
	-0.4 (-1.1%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

8.34 m², No overhang

Windows facing South West

8.37 m², No overhang

Windows facing West

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 01Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	B 01 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	87 B	DER	19.71
Environmental	88 B	TER	26.62
CO ₂ Emissions (t/year)	0.74	% DER<TER	25.95
General Requirements Compliance	Pass	DFEE	40.22
		TFEE	41.69
		% DFEE<TFEE	3.51
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.62	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	19.71	kgCO ₂ /m ²	Pass
	-6.91 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	41.69	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	40.22	kWh/m ² /yr	
	-1.5 (-3.6%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 01Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 01 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	87 B	DER	18.50
Environmental	89 B	TER	25.69
CO ₂ Emissions (t/year)	0.70	% DER<TER	27.98
General Requirements Compliance	Pass	DFEE	37.95
		TFEE	38.56
		% DFEE<TFEE	1.58
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.69	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.50	kgCO ₂ /m ²	Pass
	-7.19 (-28.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	38.56	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.95	kWh/m ² /yr	
	-0.7 (-1.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 01Level 007	Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref	
Property	B 01 007, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	82 B	DER	22.08
Environmental	84 B	TER	26.16
CO ₂ Emissions (t/year)	1.15	% DER<TER	15.58
General Requirements Compliance	Pass	DFEE	45.00
		TFEE	48.74
		% DFEE<TFEE	7.67
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	22.08	kgCO ₂ /m ²	Pass
	-4.08 (-15.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	48.74	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	45.00	kWh/m ² /yr	
	-3.7 (-7.6%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

8.34 m², No overhang

Windows facing West

3.96 m², No overhang

Windows facing North West

8.37 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	B 02 001, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	85 B	DER	21.83
Environmental	86 B	TER	28.31
CO ₂ Emissions (t/year)	0.87	% DER<TER	22.88
General Requirements Compliance	Pass	DFEE	43.29
		TFEE	49.26
		% DFEE<TFEE	12.11
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	28.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.83	kgCO ₂ /m ²	Pass
	-6.48 (-22.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	49.26	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	43.29	kWh/m ² /yr	
	-6.0 (-12.2%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North East

8.37 m², No overhang

Windows facing East

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	B 02 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	12.56	TER	21.98
Environmental	92 A	% DER<TER	42.87		
CO ₂ Emissions (t/year)	0.48	DFEE	24.40	TFEE	24.15
General Requirements Compliance	Fail	% DFEE<TFEE	-1.02		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 02 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	11.79	TER	20.29
Environmental	92 A	% DER<TER	41.89		
CO₂ Emissions (t/year)	0.53	DFEE	22.82	TFEE	22.99
General Requirements Compliance	Pass	% DFEE<TFEE	0.76		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 004		Issued on Date	28/10/2021	
Assessment Reference	004	Prop Type Ref			
Property	B 02 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	15.63	TER	21.11
Environmental	89 B	% DER<TER	25.94		
CO₂ Emissions (t/year)	0.75	DFEE	32.68	TFEE	29.65
General Requirements Compliance	Fail	% DFEE<TFEE	-10.21		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	B 02 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	14.76	TER	20.16
Environmental	89 B	% DER<TER	26.80		
CO₂ Emissions (t/year)	0.78	DFEE	30.81	TFEE	28.91
General Requirements Compliance	Fail	% DFEE<TFEE	-6.54		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 02 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.73
Environmental	90 B	TER	24.14
CO ₂ Emissions (t/year)	0.62	% DER<TER	30.69
General Requirements Compliance	Fail	DFEE	34.45
		TFEE	33.43
		% DFEE<TFEE	-3.03
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 007	Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref	
Property	B 02 007, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	15.63
Environmental	90 B	TER	23.31
CO ₂ Emissions (t/year)	0.59	% DER<TER	32.96
General Requirements Compliance	Fail	DFEE	32.31
		TFEE	30.58
		% DFEE<TFEE	-5.68
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured venetian blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 02 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.42
Environmental	90 B	TER	25.20
CO ₂ Emissions (t/year)	0.64	% DER<TER	30.88
General Requirements Compliance	Pass	DFEE	34.84
		TFEE	37.19
		% DFEE<TFEE	6.31
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 02Level 009		Issued on Date	28/10/2021	
Assessment Reference	009	Prop Type Ref			
Property	B 02 009, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	84 B	DER	24.32	TER	29.53
Environmental	86 B	% DER<TER	17.63		
CO₂ Emissions (t/year)	0.83	DFEE	48.60	TFEE	47.51
General Requirements Compliance	Fail	% DFEE<TFEE	-2.29		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	B 03 001, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	16.81
Environmental	90 B	TER	24.29
CO ₂ Emissions (t/year)	0.66	% DER<TER	30.81
General Requirements Compliance	Pass	DFEE	33.64
		TFEE	36.04
		% DFEE<TFEE	6.66
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North East

8.37 m², No overhang

Windows facing East

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	B 03 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	12.56	TER	21.98
Environmental	92 A	% DER<TER	42.87		
CO ₂ Emissions (t/year)	0.48	DFEE	24.40	TFEE	24.15
General Requirements Compliance	Fail	% DFEE<TFEE	-1.02		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system
Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 03 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	11.79	TER	20.29
Environmental	92 A	% DER<TER	41.89		
CO₂ Emissions (t/year)	0.53	DFEE	22.82	TFEE	22.99
General Requirements Compliance	Pass	% DFEE<TFEE	0.76		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 004		Issued on Date	28/10/2021	
Assessment Reference	004		Prop Type Ref		
Property	B 03 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	15.63	TER	21.11
Environmental	89 B	% DER<TER	25.94		
CO₂ Emissions (t/year)	0.75	DFEE	32.68	TFEE	29.65
General Requirements Compliance	Fail	% DFEE<TFEE	-10.21		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	B 03 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	14.76	TER	20.16
Environmental	89 B	% DER<TER	26.80		
CO₂ Emissions (t/year)	0.78	DFEE	30.81	TFEE	28.91
General Requirements Compliance	Fail	% DFEE<TFEE	-6.54		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

8.34 m², No overhang

Windows facing South West

8.37 m², No overhang

Windows facing West

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 03 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.73
Environmental	90 B	TER	24.14
CO ₂ Emissions (t/year)	0.62	% DER<TER	30.69
General Requirements Compliance	Fail	DFEE	34.45
		TFEE	33.43
		% DFEE<TFEE	-3.03
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 007		Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref		
Property	B 03 007, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	89 B	DER	15.63	TER 23.31
Environmental	90 B	% DER<TER	32.96	
CO₂ Emissions (t/year)	0.59	DFEE	32.31	TFEE 30.58
General Requirements Compliance	Fail	% DFEE<TFEE	-5.68	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 008		Issued on Date	28/10/2021	
Assessment Reference	008	Prop Type Ref			
Property	B 03 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.42	TER	25.20
Environmental	90 B	% DER<TER	30.88		
CO₂ Emissions (t/year)	0.64	DFEE	34.84	TFEE	37.19
General Requirements Compliance	Pass	% DFEE<TFEE	6.31		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 03Level 009	Issued on Date	28/10/2021
Assessment Reference	009	Prop Type Ref	
Property	B 03 009, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	84 B	DER	24.32
Environmental	86 B	TER	29.53
CO ₂ Emissions (t/year)	0.83	% DER<TER	17.63
General Requirements Compliance	Fail	DFEE	48.60
		TFEE	47.51
		% DFEE<TFEE	-2.29
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	B 04 001, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	88 B	DER	16.81	TER	24.29
Environmental	90 B	% DER<TER	30.81		
CO ₂ Emissions (t/year)	0.66	DFEE	33.64	TFEE	36.04
General Requirements Compliance	Pass	% DFEE<TFEE	6.66		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North East

8.37 m², No overhang

Windows facing East

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	B 04 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	12.56	TER	21.98
Environmental	92 A	% DER<TER	42.87		
CO ₂ Emissions (t/year)	0.48	DFEE	24.40	TFEE	24.15
General Requirements Compliance	Fail	% DFEE<TFEE	-1.02		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 003	Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref	
Property	B 04 003, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	92 A	DER	11.79
Environmental	92 A	TER	20.29
CO ₂ Emissions (t/year)	0.53	% DER<TER	41.89
General Requirements Compliance	Pass	DFEE	22.82
		TFEE	22.99
		% DFEE<TFEE	0.76
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	B 04 004, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	15.63
Environmental	89 B	TER	21.11
CO ₂ Emissions (t/year)	0.75	% DER<TER	25.94
General Requirements Compliance	Fail	DFEE	32.68
		TFEE	29.65
		% DFEE<TFEE	-10.21
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	B 04 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	14.76
Environmental	89 B	TER	20.16
CO ₂ Emissions (t/year)	0.78	% DER<TER	26.80
General Requirements Compliance	Fail	DFEE	30.81
		TFEE	28.91
		% DFEE<TFEE	-6.54
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 04 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.73
Environmental	90 B	TER	24.14
CO ₂ Emissions (t/year)	0.62	% DER<TER	30.69
General Requirements Compliance	Fail	DFEE	34.45
		TFEE	33.43
		% DFEE<TFEE	-3.03
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 007	Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref	
Property	B 04 007, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	89 B	DER	15.63	TER	23.31
Environmental	90 B	% DER<TER	32.96		
CO ₂ Emissions (t/year)	0.59	DFEE	32.31	TFEE	30.58
General Requirements Compliance	Fail	% DFEE<TFEE	-5.68		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 04 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.42
Environmental	90 B	TER	25.20
CO ₂ Emissions (t/year)	0.64	% DER<TER	30.88
General Requirements Compliance	Pass	DFEE	34.84
		TFEE	37.19
		% DFEE<TFEE	6.31
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 04Level 009		Issued on Date	28/10/2021	
Assessment Reference	009	Prop Type Ref			
Property	B 04 009, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	84 B	DER	24.32	TER	29.53
Environmental	86 B	% DER<TER	17.63		
CO₂ Emissions (t/year)	0.83	DFEE	48.60	TFEE	47.51
General Requirements Compliance	Fail	% DFEE<TFEE	-2.29		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	B 05 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.81	TER	24.29
Environmental	90 B	% DER<TER	30.81		
CO₂ Emissions (t/year)	0.66	DFEE	33.64	TFEE	36.04
General Requirements Compliance	Pass	% DFEE<TFEE	6.66		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North East

8.37 m², No overhang

Windows facing East

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	B 05 002, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	92 A	DER	12.56
Environmental	92 A	TER	21.98
CO ₂ Emissions (t/year)	0.48	% DER<TER	42.87
General Requirements Compliance	Fail	DFEE	24.40
		TFEE	24.15
		% DFEE<TFEE	-1.02
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 003	Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref	
Property	B 05 003, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	92 A	DER	11.79
Environmental	92 A	TER	20.29
CO ₂ Emissions (t/year)	0.53	% DER<TER	41.89
General Requirements Compliance	Pass	DFEE	22.82
		TFEE	22.99
		% DFEE<TFEE	0.76
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	B 05 004, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	15.63
Environmental	89 B	TER	21.11
CO ₂ Emissions (t/year)	0.75	% DER<TER	25.94
General Requirements Compliance	Fail	DFEE	32.68
		TFEE	29.65
		% DFEE<TFEE	-10.21
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	B 05 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	14.76	TER	20.16
Environmental	89 B	% DER<TER	26.80		
CO₂ Emissions (t/year)	0.78	DFEE	30.81	TFEE	28.91
General Requirements Compliance	Fail	% DFEE<TFEE	-6.54		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 05 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.73
Environmental	90 B	TER	24.14
CO ₂ Emissions (t/year)	0.62	% DER<TER	30.69
General Requirements Compliance	Fail	DFEE	34.45
		TFEE	33.43
		% DFEE<TFEE	-3.03
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 007		Issued on Date	28/10/2021	
Assessment Reference	007	Prop Type Ref			
Property	B 05 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	15.63	TER	23.31
Environmental	90 B	% DER<TER	32.96		
CO₂ Emissions (t/year)	0.59	DFEE	32.31	TFEE	30.58
General Requirements Compliance	Fail	% DFEE<TFEE	-5.68		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 05 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.42
Environmental	90 B	TER	25.20
CO ₂ Emissions (t/year)	0.64	% DER<TER	30.88
General Requirements Compliance	Pass	DFEE	34.84
		TFEE	37.19
		% DFEE<TFEE	6.31
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 05Level 009	Issued on Date	28/10/2021
Assessment Reference	009	Prop Type Ref	
Property	B 05 009, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	84 B	DER	24.32	TER	29.53
Environmental	86 B	% DER<TER	17.63		
CO ₂ Emissions (t/year)	0.83	DFEE	48.60	TFEE	47.51
General Requirements Compliance	Fail	% DFEE<TFEE	-2.29		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	B 06 001, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	16.81
Environmental	90 B	TER	24.29
CO ₂ Emissions (t/year)	0.66	% DER<TER	30.81
General Requirements Compliance	Pass	DFEE	33.64
		TFEE	36.04
		% DFEE<TFEE	6.66
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North East

8.37 m², No overhang

Windows facing East

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	B 06 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	12.56	TER	21.98
Environmental	92 A	% DER<TER	42.87		
CO ₂ Emissions (t/year)	0.48	DFEE	24.40	TFEE	24.15
General Requirements Compliance	Fail	% DFEE<TFEE	-1.02		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system
Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 003	Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref	
Property	B 06 003, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	92 A	DER	11.79
Environmental	92 A	TER	20.29
CO ₂ Emissions (t/year)	0.53	% DER<TER	41.89
General Requirements Compliance	Pass	DFEE	22.82
		TFEE	22.99
		% DFEE<TFEE	0.76
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 004		Issued on Date	28/10/2021	
Assessment Reference	004	Prop Type Ref			
Property	B 06 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	15.63	TER	21.11
Environmental	89 B	% DER<TER	25.94		
CO₂ Emissions (t/year)	0.75	DFEE	32.68	TFEE	29.65
General Requirements Compliance	Fail	% DFEE<TFEE	-10.21		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	B 06 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	14.76
Environmental	89 B	TER	20.16
CO ₂ Emissions (t/year)	0.78	% DER<TER	26.80
General Requirements Compliance	Fail	DFEE	30.81
		TFEE	28.91
		% DFEE<TFEE	-6.54
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 06 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.73
Environmental	90 B	TER	24.14
CO ₂ Emissions (t/year)	0.62	% DER<TER	30.69
General Requirements Compliance	Fail	DFEE	34.45
		TFEE	33.43
		% DFEE<TFEE	-3.03
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 007		Issued on Date	28/10/2021	
Assessment Reference	007	Prop Type Ref			
Property	B 06 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	15.63	TER	23.31
Environmental	90 B	% DER<TER	32.96		
CO₂ Emissions (t/year)	0.59	DFEE	32.31	TFEE	30.58
General Requirements Compliance	Fail	% DFEE<TFEE	-5.68		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 06 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.42
Environmental	90 B	TER	25.20
CO ₂ Emissions (t/year)	0.64	% DER<TER	30.88
General Requirements Compliance	Pass	DFEE	34.84
		TFEE	37.19
		% DFEE<TFEE	6.31
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 06Level 009	Issued on Date	28/10/2021
Assessment Reference	009	Prop Type Ref	
Property	B 06 009, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	84 B	DER	24.32
Environmental	86 B	TER	29.53
CO ₂ Emissions (t/year)	0.83	% DER<TER	17.63
General Requirements Compliance	Fail	DFEE	48.60
		TFEE	47.51
		% DFEE<TFEE	-2.29
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	B 07 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.81	TER	24.29
Environmental	90 B	% DER<TER	30.81		
CO₂ Emissions (t/year)	0.66	DFEE	33.64	TFEE	36.04
General Requirements Compliance	Pass	% DFEE<TFEE	6.66		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	B 07 002, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	92 A	DER	12.56
Environmental	92 A	TER	21.98
CO ₂ Emissions (t/year)	0.48	% DER<TER	42.87
General Requirements Compliance	Fail	DFEE	24.40
		TFEE	24.15
		% DFEE<TFEE	-1.02
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 07 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	11.79	TER	20.29
Environmental	92 A	% DER<TER	41.89		
CO₂ Emissions (t/year)	0.53	DFEE	22.82	TFEE	22.99
General Requirements Compliance	Pass	% DFEE<TFEE	0.76		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	B 07 004, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	15.63
Environmental	89 B	% DER<TER	25.94
CO ₂ Emissions (t/year)	0.75	DFEE	32.68
General Requirements Compliance	Fail	% DFEE<TFEE	-10.21
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
Client	T575-0001		

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	B 07 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	14.76	TER	20.16
Environmental	89 B	% DER<TER	26.80		
CO₂ Emissions (t/year)	0.78	DFEE	30.81	TFEE	28.91
General Requirements Compliance	Fail	% DFEE<TFEE	-6.54		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 006		Issued on Date	28/10/2021	
Assessment Reference	006	Prop Type Ref			
Property	B 07 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	16.73	TER	24.14
Environmental	90 B	% DER<TER	30.69		
CO₂ Emissions (t/year)	0.62	DFEE	34.45	TFEE	33.43
General Requirements Compliance	Fail	% DFEE<TFEE	-3.03		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 007	Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref	
Property	B 07 007, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	15.63
Environmental	90 B	TER	23.31
CO ₂ Emissions (t/year)	0.59	% DER<TER	32.96
General Requirements Compliance	Fail	DFEE	32.31
		TFEE	30.58
		% DFEE<TFEE	-5.68
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 07 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.42
Environmental	90 B	TER	25.20
CO ₂ Emissions (t/year)	0.64	% DER<TER	30.88
General Requirements Compliance	Pass	DFEE	34.84
		TFEE	37.19
		% DFEE<TFEE	6.31
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 07Level 009		Issued on Date	28/10/2021	
Assessment Reference	009	Prop Type Ref			
Property	B 07 009, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	84 B	DER	24.32	TER	29.53
Environmental	86 B	% DER<TER	17.63		
CO₂ Emissions (t/year)	0.83	DFEE	48.60	TFEE	47.51
General Requirements Compliance	Fail	% DFEE<TFEE	-2.29		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	B 08 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.81	TER	24.29
Environmental	90 B	% DER<TER	30.81		
CO₂ Emissions (t/year)	0.66	DFEE	33.64	TFEE	36.04
General Requirements Compliance	Pass	% DFEE<TFEE	6.66		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	B 08 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	12.56	TER	21.98
Environmental	92 A	% DER<TER	42.87		
CO ₂ Emissions (t/year)	0.48	DFEE	24.40	TFEE	24.15
General Requirements Compliance	Fail	% DFEE<TFEE	-1.02		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 08 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	11.79	TER	20.29
Environmental	92 A	% DER<TER	41.89		
CO₂ Emissions (t/year)	0.53	DFEE	22.82	TFEE	22.99
General Requirements Compliance	Pass	% DFEE<TFEE	0.76		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	B 08 004, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	15.63
Environmental	89 B	TER	21.11
CO ₂ Emissions (t/year)	0.75	% DER<TER	25.94
General Requirements Compliance	Fail	DFEE	32.68
		TFEE	29.65
		% DFEE<TFEE	-10.21
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	B 08 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	14.76
Environmental	89 B	TER	20.16
CO ₂ Emissions (t/year)	0.78	% DER<TER	26.80
General Requirements Compliance	Fail	DFEE	30.81
		TFEE	28.91
		% DFEE<TFEE	-6.54
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 08 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.73
Environmental	90 B	TER	24.14
CO ₂ Emissions (t/year)	0.62	% DER<TER	30.69
General Requirements Compliance	Fail	DFEE	34.45
		TFEE	33.43
		% DFEE<TFEE	-3.03
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 007		Issued on Date	28/10/2021	
Assessment Reference	007		Prop Type Ref		
Property	B 08 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	15.63	TER	23.31
Environmental	90 B	% DER<TER	32.96		
CO₂ Emissions (t/year)	0.59	DFEE	32.31	TFEE	30.58
General Requirements Compliance	Fail	% DFEE<TFEE	-5.68		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 08 008, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	88 B	DER	17.42	TER	25.20
Environmental	90 B	% DER<TER	30.88		
CO ₂ Emissions (t/year)	0.64	DFEE	34.84	TFEE	37.19
General Requirements Compliance	Pass	% DFEE<TFEE	6.31		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 08Level 009		Issued on Date	28/10/2021	
Assessment Reference	009	Prop Type Ref			
Property	B 08 009, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	84 B	DER	24.32	TER	29.53
Environmental	86 B	% DER<TER	17.63		
CO₂ Emissions (t/year)	0.83	DFEE	48.60	TFEE	47.51
General Requirements Compliance	Fail	% DFEE<TFEE	-2.29		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	B 09 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.81	TER	24.29
Environmental	90 B	% DER<TER	30.81		
CO₂ Emissions (t/year)	0.66	DFEE	33.64	TFEE	36.04
General Requirements Compliance	Pass	% DFEE<TFEE	6.66		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	B 09 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	12.56	TER	21.98
Environmental	92 A	% DER<TER	42.87		
CO ₂ Emissions (t/year)	0.48	DFEE	24.40	TFEE	24.15
General Requirements Compliance	Fail	% DFEE<TFEE	-1.02		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 09 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	11.79	TER	20.29
Environmental	92 A	% DER<TER	41.89		
CO₂ Emissions (t/year)	0.53	DFEE	22.82	TFEE	22.99
General Requirements Compliance	Pass	% DFEE<TFEE	0.76		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	B 09 004, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	88 B	DER	15.63	TER	21.11
Environmental	89 B	% DER<TER	25.94		
CO ₂ Emissions (t/year)	0.75	DFEE	32.68	TFEE	29.65
General Requirements Compliance	Fail	% DFEE<TFEE	-10.21		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	B 09 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	14.76
Environmental	89 B	TER	20.16
CO ₂ Emissions (t/year)	0.78	% DER<TER	26.80
General Requirements Compliance	Fail	DFEE	30.81
		TFEE	28.91
		% DFEE<TFEE	-6.54
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 09 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.73
Environmental	90 B	TER	24.14
CO ₂ Emissions (t/year)	0.62	% DER<TER	30.69
General Requirements Compliance	Fail	DFEE	34.45
		TFEE	33.43
		% DFEE<TFEE	-3.03
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 007	Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref	
Property	B 09 007, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	15.63
Environmental	90 B	TER	23.31
CO ₂ Emissions (t/year)	0.59	% DER<TER	32.96
General Requirements Compliance	Fail	DFEE	32.31
		TFEE	30.58
		% DFEE<TFEE	-5.68
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 008		Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref		
Property	B 09 008, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	88 B	DER	17.42	TER 25.20
Environmental	90 B	% DER<TER	30.88	
CO₂ Emissions (t/year)	0.64	DFEE	34.84	TFEE 37.19
General Requirements Compliance	Pass	% DFEE<TFEE	6.31	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 09Level 009	Issued on Date	28/10/2021
Assessment Reference	009	Prop Type Ref	
Property	B 09 009, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	84 B	DER	24.32
Environmental	86 B	TER	29.53
CO ₂ Emissions (t/year)	0.83	% DER<TER	17.63
General Requirements Compliance	Fail	DFEE	48.60
		TFEE	47.51
		% DFEE<TFEE	-2.29
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	B 10 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	16.81	TER	24.29
Environmental	90 B	% DER<TER	30.81		
CO₂ Emissions (t/year)	0.66	DFEE	33.64	TFEE	36.04
General Requirements Compliance	Pass	% DFEE<TFEE	6.66		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	B 10 002, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	92 A	DER	12.56
Environmental	92 A	TER	21.98
CO ₂ Emissions (t/year)	0.48	% DER<TER	42.87
General Requirements Compliance	Fail	DFEE	24.40
		TFEE	24.15
		% DFEE<TFEE	-1.02
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.56	kgCO ₂ /m ²	Pass
	-9.42 (-42.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.15	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.40	kWh/m ² /yr	
Excess energy	0.2 (0.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 10 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	92 A	DER	11.79	TER	20.29
Environmental	92 A	% DER<TER	41.89		
CO₂ Emissions (t/year)	0.53	DFEE	22.82	TFEE	22.99
General Requirements Compliance	Pass	% DFEE<TFEE	0.76		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	11.79	kgCO ₂ /m ²	Pass
	-8.50 (-41.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	22.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	22.82	kWh/m ² /yr	
	-0.2 (-0.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 004		Issued on Date	28/10/2021	
Assessment Reference	004	Prop Type Ref			
Property	B 10 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	15.63	TER	21.11
Environmental	89 B	% DER<TER	25.94		
CO₂ Emissions (t/year)	0.75	DFEE	32.68	TFEE	29.65
General Requirements Compliance	Fail	% DFEE<TFEE	-10.21		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	B 10 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	14.76	TER	20.16
Environmental	89 B	% DER<TER	26.80		
CO₂ Emissions (t/year)	0.78	DFEE	30.81	TFEE	28.91
General Requirements Compliance	Fail	% DFEE<TFEE	-6.54		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

8.34 m², No overhang

Windows facing South West

8.37 m², No overhang

Windows facing West

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 10 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.73
Environmental	90 B	TER	24.14
CO ₂ Emissions (t/year)	0.62	% DER<TER	30.69
General Requirements Compliance	Fail	DFEE	34.45
		TFEE	33.43
		% DFEE<TFEE	-3.03
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.14	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.73	kgCO ₂ /m ²	Pass
	-7.41 (-30.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.45	kWh/m ² /yr	
Excess energy	1.0 (3.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 007	Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref	
Property	B 10 007, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	15.63
Environmental	90 B	TER	23.31
CO ₂ Emissions (t/year)	0.59	% DER<TER	32.96
General Requirements Compliance	Fail	DFEE	32.31
		TFEE	30.58
		% DFEE<TFEE	-5.68
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.31	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-7.68 (-32.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.58	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.31	kWh/m ² /yr	
Excess energy	1.7 (5.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 10 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.42
Environmental	90 B	TER	25.20
CO ₂ Emissions (t/year)	0.64	% DER<TER	30.88
General Requirements Compliance	Pass	DFEE	34.84
		TFEE	37.19
		% DFEE<TFEE	6.31
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 10Level 009		Issued on Date	28/10/2021	
Assessment Reference	009	Prop Type Ref			
Property	B 10 009, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	84 B	DER	24.32	TER	29.53
Environmental	86 B	% DER<TER	17.63		
CO₂ Emissions (t/year)	0.83	DFEE	48.60	TFEE	47.51
General Requirements Compliance	Fail	% DFEE<TFEE	-2.29		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.53	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.32	kgCO ₂ /m ²	Pass
	-5.21 (-17.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	47.51	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	48.60	kWh/m ² /yr	
Excess energy	1.1 (2.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 001		Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref		
Property	B 11 001, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	88 B	DER	16.81	TER 24.29
Environmental	90 B	% DER<TER	30.81	
CO₂ Emissions (t/year)	0.66	DFEE	33.64	TFEE 36.04
General Requirements Compliance	Pass	% DFEE<TFEE	6.66	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.29	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.81	kgCO ₂ /m ²	Pass
	-7.48 (-30.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	36.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.64	kWh/m ² /yr	
	-2.4 (-6.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing North East

Windows facing East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	B 11 002, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	91 B	DER	13.03
Environmental	92 A	TER	22.99
CO ₂ Emissions (t/year)	0.49	% DER<TER	43.32
General Requirements Compliance	Pass	DFEE	25.38
		TFEE	28.99
		% DFEE<TFEE	12.44
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.99	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	13.03	kgCO ₂ /m ²	Pass
	-9.96 (-43.3%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	25.38	kWh/m ² /yr	
	-3.6 (-12.4%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 11 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	12.51	TER	21.15
Environmental	92 A	% DER<TER	40.85		
CO₂ Emissions (t/year)	0.56	DFEE	24.34	TFEE	27.11
General Requirements Compliance	Pass	% DFEE<TFEE	10.25		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.15	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	12.51	kgCO ₂ /m ²	Pass
	-8.64 (-40.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	27.11	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	24.34	kWh/m ² /yr	
	-2.8 (-10.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 004		Issued on Date	28/10/2021	
Assessment Reference	004		Prop Type Ref		
Property	B 11 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	15.63	TER	21.11
Environmental	89 B	% DER<TER	25.94		
CO₂ Emissions (t/year)	0.75	DFEE	32.68	TFEE	29.65
General Requirements Compliance	Fail	% DFEE<TFEE	-10.21		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.11	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.63	kgCO ₂ /m ²	Pass
	-5.48 (-26.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.65	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.68	kWh/m ² /yr	
Excess energy	3.1 (10.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	B 11 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	14.76
Environmental	89 B	TER	20.16
CO ₂ Emissions (t/year)	0.78	% DER<TER	26.80
General Requirements Compliance	Fail	DFEE	30.81
		TFEE	28.91
		% DFEE<TFEE	-6.54
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 11 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	16.89
Environmental	90 B	TER	24.28
CO ₂ Emissions (t/year)	0.63	% DER<TER	30.44
General Requirements Compliance	Fail	DFEE	34.76
		TFEE	33.92
		% DFEE<TFEE	-2.48
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.28	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	16.89	kgCO ₂ /m ²	Pass
	-7.39 (-30.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.92	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.76	kWh/m ² /yr	
Excess energy	0.9 (2.7%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 007	Issued on Date	28/10/2021
Assessment Reference	007	Prop Type Ref	
Property	B 11 007, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	89 B	DER	15.78
Environmental	90 B	TER	23.45
CO ₂ Emissions (t/year)	0.59	% DER<TER	32.71
General Requirements Compliance	Fail	DFEE	32.62
		TFEE	31.04
		% DFEE<TFEE	-5.07
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.45	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.78	kgCO ₂ /m ²	Pass
	-7.67 (-32.7%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.04	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.62	kWh/m ² /yr	
Excess energy	1.6 (5.2%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.30 m², No overhang

Windows facing West

11.61 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 11 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.42
Environmental	90 B	TER	25.20
CO ₂ Emissions (t/year)	0.64	% DER<TER	30.88
General Requirements Compliance	Pass	DFEE	34.84
		TFEE	37.19
		% DFEE<TFEE	6.31
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@viteconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing West

3.96 m², No overhang

Windows facing North West

8.37 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 11Level 009		Issued on Date	28/10/2021	
Assessment Reference	009		Prop Type Ref		
Property	B 11 009, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	21.10	TER	26.84
Environmental	88 B	% DER<TER	21.38		
CO₂ Emissions (t/year)	0.71	DFEE	42.44	TFEE	38.54
General Requirements Compliance	Fail	% DFEE<TFEE	-10.13		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.84	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.10	kgCO ₂ /m ²	Pass
	-5.74 (-21.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	38.54	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	42.44	kWh/m ² /yr	
Excess energy	3.9 (10.1%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	B 12 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	17.43	TER	25.21
Environmental	90 B	% DER<TER	30.86		
CO₂ Emissions (t/year)	0.64	DFEE	34.85	TFEE	37.20
General Requirements Compliance	Fail	% DFEE<TFEE	6.31		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.21	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.43	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.20	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.85	kWh/m ² /yr	
	-2.3 (-6.2%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

High

Fail

Based on:

Overshading

Average

Windows facing North East

8.37 m², No overhang

Windows facing East

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 002		Issued on Date	28/10/2021	
Assessment Reference	002		Prop Type Ref		
Property	B 12 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	91 B	DER	14.00	TER	22.79
Environmental	91 B	% DER<TER	38.56		
CO₂ Emissions (t/year)	0.53	DFEE	28.43	TFEE	28.95
General Requirements Compliance	Pass	% DFEE<TFEE	1.78		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.79	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.00	kgCO ₂ /m ²	Pass
	-8.79 (-38.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.95	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	28.43	kWh/m ² /yr	
	-0.5 (-1.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 12 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	90 B	DER	15.29	TER	23.92
Environmental	91 B	% DER<TER	36.07		
CO₂ Emissions (t/year)	0.56	DFEE	31.07	TFEE	32.90
General Requirements Compliance	Pass	% DFEE<TFEE	5.56		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.92	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.29	kgCO ₂ /m ²	Pass
	-8.63 (-36.1%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	32.90	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	31.07	kWh/m ² /yr	
	-1.8 (-5.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North East

5.52 m², No overhang

Windows facing East

7.02 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 004		Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref		
Property	B 12 004, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	88 B	DER	14.76	TER 20.17
Environmental	89 B	% DER<TER	26.81	
CO₂ Emissions (t/year)	0.78	DFEE	30.81	TFEE 28.93
General Requirements Compliance	Fail	% DFEE<TFEE	-6.52	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.17	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.41 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.93	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing East

Windows facing South East

Windows facing South

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 005		Issued on Date	28/10/2021	
Assessment Reference	005		Prop Type Ref		
Property	B 12 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	88 B	DER	14.76	TER	20.16
Environmental	89 B	% DER<TER	26.80		
CO₂ Emissions (t/year)	0.78	DFEE	30.81	TFEE	28.91
General Requirements Compliance	Fail	% DFEE<TFEE	-6.54		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.16	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.76	kgCO ₂ /m ²	Pass
	-5.40 (-26.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	28.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	30.81	kWh/m ² /yr	
Excess energy	1.9 (6.6%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum %

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing South

Windows facing South West

Windows facing West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 12 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	90 B	DER	15.61
Environmental	91 B	TER	24.06
CO ₂ Emissions (t/year)	0.57	% DER<TER	35.12
General Requirements Compliance	Pass	DFEE	31.68
		TFEE	33.24
		% DFEE<TFEE	4.68
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.06	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.61	kgCO ₂ /m ²	Pass
	-8.45 (-35.1%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	31.68	kWh/m ² /yr	
	-1.5 (-4.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 007		Issued on Date	28/10/2021	
Assessment Reference	007		Prop Type Ref		
Property	B 12 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	90 B	DER	14.32	TER	22.93
Environmental	91 B	% DER<TER	37.55		
CO₂ Emissions (t/year)	0.54	DFEE	29.04	TFEE	29.29
General Requirements Compliance	Pass	% DFEE<TFEE	0.87		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.93	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	14.32	kgCO ₂ /m ²	Pass
	-8.61 (-37.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	29.29	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	29.04	kWh/m ² /yr	
	-0.3 (-1.0%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South West

5.46 m², No overhang

Windows facing West

7.02 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 008	Issued on Date	28/10/2021
Assessment Reference	008	Prop Type Ref	
Property	B 12 008, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.42
Environmental	90 B	TER	25.20
CO ₂ Emissions (t/year)	0.64	% DER<TER	30.88
General Requirements Compliance	Pass	DFEE	34.84
		TFEE	37.19
		% DFEE<TFEE	6.31
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.20	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.42	kgCO ₂ /m ²	Pass
	-7.78 (-30.9%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.19	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.84	kWh/m ² /yr	
	-2.4 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

6 Controls

Space heating controls 1

Hot water controls

7 Low energy lights

Percentage of fixed lights with low-energy fittings %

Minimum %

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

Maximum

MVHR efficiency %

Minimum %

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Based on:

Overshading

Windows facing West

Windows facing North West

Air change rate

Blinds/curtains

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m²K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

Maximum

10 Key features

Party wall U-value W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 12Level 009		Issued on Date	28/10/2021	
Assessment Reference	009		Prop Type Ref		
Property	B 12 009, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	21.10	TER	26.84
Environmental	88 B	% DER<TER	21.38		
CO₂ Emissions (t/year)	0.71	DFEE	42.44	TFEE	38.54
General Requirements Compliance	Fail	% DFEE<TFEE	-10.13		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.84	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.10	kgCO ₂ /m ²	Pass
	-5.74 (-21.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	38.54	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	42.44	kWh/m ² /yr	
Excess energy	3.9 (10.1%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	
Secondary heating system	None	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	B 13 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	21.29	TER	29.15
Environmental	87 B	% DER<TER	26.97		
CO₂ Emissions (t/year)	0.79	DFEE	42.30	TFEE	50.25
General Requirements Compliance	Pass	% DFEE<TFEE	15.81		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.15	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.29	kgCO ₂ /m ²	Pass
	-7.86 (-27.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	50.25	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	42.30	kWh/m ² /yr	
	-7.9 (-15.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North East

8.37 m², No overhang

Windows facing East

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 002		Issued on Date	28/10/2021	
Assessment Reference	002		Prop Type Ref		
Property	B 13 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	15.66	TER	24.63
Environmental	90 B	% DER<TER	36.41		
CO₂ Emissions (t/year)	0.59	DFEE	31.76	TFEE	35.16
General Requirements Compliance	Pass	% DFEE<TFEE	9.68		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.63	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.66	kgCO ₂ /m ²	Pass
	-8.97 (-36.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.16	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	31.76	kWh/m ² /yr	
	-3.4 (-9.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.02 m², No overhang

Windows facing South East

5.52 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	B 13 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	17.06	TER	25.88
Environmental	90 B	% DER<TER	34.09		
CO₂ Emissions (t/year)	0.63	DFEE	34.53	TFEE	39.45
General Requirements Compliance	Pass	% DFEE<TFEE	12.48		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.88	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.06	kgCO ₂ /m ²	Pass
	-8.82 (-34.1%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	39.45	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.53	kWh/m ² /yr	
	-4.9 (-12.4%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North East

5.52 m², No overhang

Windows facing East

7.02 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 004		Issued on Date	28/10/2021	
Assessment Reference	004		Prop Type Ref		
Property	B 13 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	85 B	DER	18.10	TER	23.76
Environmental	87 B	% DER<TER	23.82		
CO₂ Emissions (t/year)	0.96	DFEE	37.47	TFEE	40.91
General Requirements Compliance	Pass	% DFEE<TFEE	8.40		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.76	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.10	kgCO ₂ /m ²	Pass
	-5.66 (-23.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	40.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.47	kWh/m ² /yr	
	-3.4 (-8.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

3.96 m², No overhang

Windows facing South East

8.37 m², No overhang

Windows facing South

8.34 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	B 13 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	85 B	DER	18.10
Environmental	87 B	TER	23.76
CO ₂ Emissions (t/year)	0.96	% DER<TER	23.82
General Requirements Compliance	Pass	DFEE	37.47
		TFEE	40.91
		% DFEE<TFEE	8.40
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.76	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.10	kgCO ₂ /m ²	Pass
	-5.66 (-23.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	40.91	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.47	kWh/m ² /yr	
	-3.4 (-8.3%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

8.34 m², No overhang

Windows facing South West

8.37 m², No overhang

Windows facing West

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	B 13 006, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	88 B	DER	17.24
Environmental	90 B	TER	25.92
CO ₂ Emissions (t/year)	0.63	% DER<TER	33.48
General Requirements Compliance	Pass	DFEE	34.85
		TFEE	39.43
		% DFEE<TFEE	11.60
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.92	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.24	kgCO ₂ /m ²	Pass
	-8.68 (-33.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	39.43	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.85	kWh/m ² /yr	
	-4.5 (-11.4%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing West

7.02 m², No overhang

Windows facing North West

5.46 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 007		Issued on Date	28/10/2021	
Assessment Reference	007	Prop Type Ref			
Property	B 13 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	89 B	DER	15.84	TER	24.67
Environmental	90 B	% DER<TER	35.79		
CO₂ Emissions (t/year)	0.59	DFEE	32.10	TFEE	35.17
General Requirements Compliance	Pass	% DFEE<TFEE	8.74		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.67	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.84	kgCO ₂ /m ²	Pass
	-8.83 (-35.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.17	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.10	kWh/m ² /yr	
	-3.1 (-8.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South West

5.46 m², No overhang

Windows facing West

7.02 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 008		Issued on Date	28/10/2021	
Assessment Reference	008	Prop Type Ref			
Property	B 13 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	21.29	TER	29.15
Environmental	87 B	% DER<TER	26.97		
CO₂ Emissions (t/year)	0.79	DFEE	42.30	TFEE	50.25
General Requirements Compliance	Pass	% DFEE<TFEE	15.81		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	29.15	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.29	kgCO ₂ /m ²	Pass
	-7.86 (-27.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	50.25	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	42.30	kWh/m ² /yr	
	-7.9 (-15.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing West

3.96 m², No overhang

Windows facing North West

8.37 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 13Level 009		Issued on Date	28/10/2021	
Assessment Reference	009	Prop Type Ref			
Property	B 13 009, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	21.59	TER	28.98
Environmental	87 B	% DER<TER	25.49		
CO₂ Emissions (t/year)	0.73	DFEE	43.38	TFEE	45.69
General Requirements Compliance	Pass	% DFEE<TFEE	5.05		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	28.98	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.59	kgCO ₂ /m ²	Pass
	-7.39 (-25.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	45.69	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	43.38	kWh/m ² /yr	
	-2.3 (-5.0%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

17.16 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 14Level 001	Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref		
Property	B 14 001, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	77 C	DER	27.11	
Environmental	80 C	TER	28.54	
CO₂ Emissions (t/year)	1.53	% DER<TER	4.99	
General Requirements Compliance	Fail	DFEE	60.08	
		TFEE	57.36	
		% DFEE<TFEE	-4.73	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID	T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	28.54	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	27.11	kgCO ₂ /m ²	Pass
	-1.43 (-5.0%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	57.36	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	60.08	kWh/m ² /yr	
Excess energy	2.7 (4.7%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

6.90 m², No overhang

Windows facing North East

13.98 m², No overhang

Windows facing East

20.82 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 14Level 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	B 14 002, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	80 C	DER	23.50
Environmental	82 B	TER	26.59
CO ₂ Emissions (t/year)	1.33	% DER<TER	11.63
General Requirements Compliance	Fail	DFEE	53.73
		TFEE	51.07
		% DFEE<TFEE	-5.21
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.59	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.50	kgCO ₂ /m ²	Pass
	-3.09 (-11.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	51.07	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	53.73	kWh/m ² /yr	
Excess energy	2.6 (5.1%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

20.82 m², No overhang

Windows facing South East

13.98 m², No overhang

Windows facing South

6.90 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 14Level 003	Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref	
Property	B 14 003, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	80 C	DER	23.57
Environmental	82 B	TER	26.64
CO ₂ Emissions (t/year)	1.33	% DER<TER	11.51
General Requirements Compliance	Fail	DFEE	53.84
		TFEE	51.18
		% DFEE<TFEE	-5.21
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.64	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.57	kgCO ₂ /m ²	Pass
	-3.07 (-11.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	51.18	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	53.84	kWh/m ² /yr	
Excess energy	2.6 (5.1%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

6.90 m², No overhang

Windows facing South West

13.98 m², No overhang

Windows facing West

20.82 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	B 14Level 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	B 14 004, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	77 C	DER	27.20
Environmental	79 C	TER	28.58
CO ₂ Emissions (t/year)	1.53	% DER<TER	4.84
General Requirements Compliance	Fail	DFEE	60.20
		TFEE	57.48
		% DFEE<TFEE	-4.74
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	28.58	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	27.20	kgCO ₂ /m ²	Pass
	-1.38 (-4.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	57.48	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	60.20	kWh/m ² /yr	
Excess energy	2.7 (4.7%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.00 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system 1	Room heaters - Electric Panel, convector or radiant heaters	
Main heating system 2	Heat pump with warm air distribution - Electric Dimplex EDL200UK-630	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls 1

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

6.90 m², No overhang

Windows facing West

20.82 m², No overhang

Windows facing North West

13.98 m², No overhang

Air change rate

6.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.00 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 01 001	Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref		
Property	A 01 001, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	78 C	DER	26.84	
Environmental	80 C	TER	25.12	
CO₂ Emissions (t/year)	1.48	% DER<TER	-6.85	
General Requirements Compliance	Fail	DFEE	43.21	
		TFEE	45.54	
		% DFEE<TFEE	5.10	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID	T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.12	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	26.84	kgCO ₂ /m ²	
Excess emissions	1.72 (6.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	45.54	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	43.21	kWh/m ² /yr	
	-2.3 (-5.1%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.96 m², No overhang

Windows facing North East

8.37 m², No overhang

Windows facing East

8.34 m², No overhang

Air change rate

4.10 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 01 002	Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref	
Property	A 01 002, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	81 B	DER	24.60	TER	24.97
Environmental	83 B	% DER<TER	1.49		
CO ₂ Emissions (t/year)	1.17	DFEE	35.67	TFEE	39.99
General Requirements Compliance	Pass	% DFEE<TFEE	10.80		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.97	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.60	kgCO ₂ /m ²	Pass
	-0.37 (-1.5%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	39.99	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	35.67	kWh/m ² /yr	
	-4.3 (-10.8%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 01 003	Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref		
Property	A 01 003, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	85 B	DER	19.84	
Environmental	86 B	% DER<TER	7.80	
CO₂ Emissions (t/year)	0.97	DFEE	25.96	
General Requirements Compliance	Pass	% DFEE<TFEE	6.52	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID	T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.52	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	19.84	kgCO ₂ /m ²	Pass
	-1.68 (-7.8%)	kgCO ₂ /m ²	

1b TFE and DFEE

Target Fabric Energy Efficiency (TFEE)	27.77	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	25.96	kWh/m ² /yr	
	-1.8 (-6.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

7.92 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Thermal bridging y-value

0.038

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 01 004	Issued on Date	28/10/2021	
Assessment Reference	004	Prop Type Ref		
Property	A 01 004, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	80 C	DER	25.01	
Environmental	82 B	TER	23.82	
CO₂ Emissions (t/year)	1.29	% DER<TER	-4.99	
General Requirements Compliance	Fail	DFEE	39.73	
		TFEE	39.01	
		% DFEE<TFEE	-1.85	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID	T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.82	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	25.01	kgCO ₂ /m ²	
Excess emissions	1.19 (5.0%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	39.01	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	39.73	kWh/m ² /yr	
Excess energy	0.7 (1.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

3.96 m², No overhang

Windows facing South West

8.37 m², No overhang

Windows facing West

8.34 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 01 005	Issued on Date	28/10/2021
Assessment Reference	005	Prop Type Ref	
Property	A 01 005, High Street, STAINES-UPON-THAMES, TW18 4DY		
SAP Rating	78 C	DER	26.84
Environmental	80 C	TER	25.12
CO ₂ Emissions (t/year)	1.48	% DER<TER	-6.85
General Requirements Compliance	Fail	DFEE	43.21
		TFEE	45.54
		% DFEE<TFEE	5.11
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID
			T575-0001
Client			

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	25.12	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	26.84	kgCO ₂ /m ²	
Excess emissions	1.72 (6.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	45.54	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	43.21	kWh/m ² /yr	
	-2.3 (-5.1%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.96 m², No overhang

Windows facing West

8.34 m², No overhang

Windows facing North West

8.37 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 01 006	Issued on Date	28/10/2021	
Assessment Reference	006	Prop Type Ref		
Property	A 01 006, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	80 C	DER	27.89	
Environmental	82 B	TER	27.56	
CO₂ Emissions (t/year)	1.11	% DER<TER	-1.18	
General Requirements Compliance	Fail	DFEE	42.37	
		TFEE	44.37	
		% DFEE<TFEE	4.51	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID	T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	27.56	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	27.89	kgCO ₂ /m ²	
Excess emissions	0.33 (1.2%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	44.37	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	42.37	kWh/m ² /yr	
	-2.0 (-4.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

11.61 m², No overhang

Windows facing East

3.30 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 01 007		Issued on Date	28/10/2021	
Assessment Reference	007	Prop Type Ref			
Property	A 01 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	80 C	DER	27.89	TER	27.56
Environmental	82 B	% DER<TER	-1.18		
CO₂ Emissions (t/year)	1.11	DFEE	42.37	TFEE	44.37
General Requirements Compliance	Fail	% DFEE<TFEE	4.51		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	27.56	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	27.89	kgCO ₂ /m ²	
Excess emissions	0.33 (1.2%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	44.37	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	42.37	kWh/m ² /yr	
	-2.0 (-4.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

11.61 m², No overhang

Windows facing West

3.30 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 02 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	A 02 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	81 B	DER	23.90	TER	22.60
Environmental	83 B	% DER<TER	-5.74		
CO₂ Emissions (t/year)	1.31	DFEE	37.51	TFEE	37.27
General Requirements Compliance	Fail	% DFEE<TFEE	-0.66		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.90	kgCO ₂ /m ²	
Excess emissions	1.30 (5.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.51	kWh/m ² /yr	
Excess energy	0.2 (0.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	3.96 m ² , No overhang	
Windows facing North East	8.37 m ² , No overhang	
Windows facing East	8.34 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 02 002		Issued on Date	28/10/2021	
Assessment Reference	002	Prop Type Ref			
Property	A 02 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	79 C	DER	26.38	TER	24.93
Environmental	81 B	% DER<TER	-5.82		
CO₂ Emissions (t/year)	1.36	DFEE	42.42	TFEE	42.68
General Requirements Compliance	Fail	% DFEE<TFEE	0.62		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.93	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	26.38	kgCO ₂ /m ²	
Excess emissions	1.45 (5.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	42.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	42.42	kWh/m ² /yr	
	-0.3 (-0.7%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.12 (max. 0.25)	0.12 (max. 0.70)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

8.34 m², No overhang

Windows facing South East

8.37 m², No overhang

Windows facing South

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

Exposed floor U-value

0.12

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 02 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	A 02 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	18.48	TER	20.48
Environmental	88 B	% DER<TER	9.77		
CO₂ Emissions (t/year)	0.90	DFEE	23.70	TFEE	23.68
General Requirements Compliance	Fail	% DFEE<TFEE	-0.10		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.48	kgCO ₂ /m ²	Pass
	-2.00 (-9.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.70	kWh/m ² /yr	
	0.0 (0.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing East	7.92 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	None	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 02 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	A 02 004, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	87 B	DER	17.00	TER	19.24
Environmental	88 B	% DER<TER	11.62		
CO ₂ Emissions (t/year)	0.86	DFEE	20.10	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-8.02		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.00	kgCO ₂ /m ²	Pass
	-2.24 (-11.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	20.10	kWh/m ² /yr	
Excess energy	1.5 (8.1%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing South	7.92 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	None	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 02 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	A 02 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	82 B	DER	22.28	TER	21.50
Environmental	84 B	% DER<TER	-3.63		
CO₂ Emissions (t/year)	1.15	DFEE	34.37	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-10.01		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	22.28	kgCO ₂ /m ²	
Excess emissions	0.78 (3.6%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.37	kWh/m ² /yr	
Excess energy	3.2 (10.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing South	3.96 m ² , No overhang	
Windows facing South West	8.37 m ² , No overhang	
Windows facing West	8.34 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 02 006	Issued on Date	28/10/2021
Assessment Reference	006	Prop Type Ref	
Property	A 02 006, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	81 B	DER	23.90	TER	22.60
Environmental	83 B	% DER<TER	-5.74		
CO ₂ Emissions (t/year)	1.31	DFEE	37.51	TFEE	37.27
General Requirements Compliance	Fail	% DFEE<TFEE	-0.65		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.90	kgCO ₂ /m ²	
Excess emissions	1.30 (5.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.51	kWh/m ² /yr	
Excess energy	0.2 (0.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	3.96 m ² , No overhang	
Windows facing West	8.34 m ² , No overhang	
Windows facing North West	8.37 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 02 007		Issued on Date	28/10/2021	
Assessment Reference	007	Prop Type Ref			
Property	A 02 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	83 B	DER	24.75	TER	24.96
Environmental	85 B	% DER<TER	0.84		
CO₂ Emissions (t/year)	0.98	DFEE	36.40	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-1.86		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.75	kgCO ₂ /m ²	Pass
	-0.21 (-0.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.40	kWh/m ² /yr	
Excess energy	0.7 (2.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.50		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	11.61 m ² , No overhang	
Windows facing East	3.30 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 02 008		Issued on Date	28/10/2021	
Assessment Reference	008	Prop Type Ref			
Property	A 02 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	83 B	DER	24.75	TER	24.96
Environmental	85 B	% DER<TER	0.84		
CO₂ Emissions (t/year)	0.98	DFEE	36.40	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-1.86		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.75	kgCO ₂ /m ²	Pass
	-0.21 (-0.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.40	kWh/m ² /yr	
Excess energy	0.7 (2.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.50		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	11.61 m ² , No overhang	
Windows facing West	3.30 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 03 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	A 03 001, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	81 B	DER	23.90	TER	22.60
Environmental	83 B	% DER<TER	-5.74		
CO ₂ Emissions (t/year)	1.31	DFEE	37.51	TFEE	37.27
General Requirements Compliance	Fail	% DFEE<TFEE	-0.66		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.90	kgCO ₂ /m ²	
Excess emissions	1.30 (5.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.51	kWh/m ² /yr	
Excess energy	0.2 (0.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	3.96 m ² , No overhang	
Windows facing North East	8.37 m ² , No overhang	
Windows facing East	8.34 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 03 002		Issued on Date	28/10/2021	
Assessment Reference	002		Prop Type Ref		
Property	A 03 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	82 B	DER	22.28	TER	21.50
Environmental	84 B	% DER<TER	-3.63		
CO₂ Emissions (t/year)	1.15	DFEE	34.37	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-10.01		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	22.28	kgCO ₂ /m ²	
Excess emissions	0.78 (3.6%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.37	kWh/m ² /yr	
Excess energy	3.2 (10.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	High	Fail
Based on:		
Overshading	Average	
Windows facing East	8.34 m ² , No overhang	
Windows facing South East	8.37 m ² , No overhang	
Windows facing South	3.96 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	None	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 03 003		Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref			
Property	A 03 003, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	86 B	DER	18.48	TER	20.48
Environmental	88 B	% DER<TER	9.77		
CO₂ Emissions (t/year)	0.90	DFEE	23.70	TFEE	23.68
General Requirements Compliance	Fail	% DFEE<TFEE	-0.10		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.48	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	18.48	kgCO ₂ /m ²	Pass
	-2.00 (-9.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	23.68	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	23.70	kWh/m ² /yr	
	0.0 (0.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing East	7.92 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	None	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 03 004		Issued on Date	28/10/2021	
Assessment Reference	004	Prop Type Ref			
Property	A 03 004, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	87 B	DER	17.00	TER	19.24
Environmental	88 B	% DER<TER	11.62		
CO₂ Emissions (t/year)	0.86	DFEE	20.10	TFEE	18.61
General Requirements Compliance	Fail	% DFEE<TFEE	-8.02		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	19.24	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	17.00	kgCO ₂ /m ²	Pass
	-2.24 (-11.6%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	18.61	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	20.10	kWh/m ² /yr	
Excess energy	1.5 (8.1%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Slight	Pass
Based on:		
Overshading	Average	
Windows facing South	7.92 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 03 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	A 03 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	82 B	DER	22.28	TER	21.50
Environmental	84 B	% DER<TER	-3.63		
CO₂ Emissions (t/year)	1.15	DFEE	34.37	TFEE	31.24
General Requirements Compliance	Fail	% DFEE<TFEE	-10.01		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.50	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	22.28	kgCO ₂ /m ²	
Excess emissions	0.78 (3.6%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	31.24	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.37	kWh/m ² /yr	
Excess energy	3.2 (10.3%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing South	3.96 m ² , No overhang	
Windows facing South West	8.37 m ² , No overhang	
Windows facing West	8.34 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 03 006	Issued on Date	28/10/2021	
Assessment Reference	006	Prop Type Ref		
Property	A 03 006, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	81 B	DER	23.90	
Environmental	83 B	TER	22.60	
CO₂ Emissions (t/year)	1.31	% DER<TER	-5.74	
General Requirements Compliance	Fail	DFEE	37.51	
		TFEE	37.27	
		% DFEE<TFEE	-0.65	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID	T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.90	kgCO ₂ /m ²	
Excess emissions	1.30 (5.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.51	kWh/m ² /yr	
Excess energy	0.2 (0.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	3.96 m ² , No overhang	
Windows facing West	8.34 m ² , No overhang	
Windows facing North West	8.37 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 03 007		Issued on Date	28/10/2021	
Assessment Reference	007	Prop Type Ref			
Property	A 03 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	83 B	DER	24.75	TER	24.96
Environmental	85 B	% DER<TER	0.84		
CO₂ Emissions (t/year)	0.98	DFEE	36.40	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-1.86		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.75	kgCO ₂ /m ²	Pass
	-0.21 (-0.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.40	kWh/m ² /yr	
Excess energy	0.7 (2.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.50		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	11.61 m ² , No overhang	
Windows facing East	3.30 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 03 008		Issued on Date	28/10/2021	
Assessment Reference	008	Prop Type Ref			
Property	A 03 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	83 B	DER	24.75	TER	24.96
Environmental	85 B	% DER<TER	0.84		
CO₂ Emissions (t/year)	0.98	DFEE	36.40	TFEE	35.73
General Requirements Compliance	Fail	% DFEE<TFEE	-1.86		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.96	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.75	kgCO ₂ /m ²	Pass
	-0.21 (-0.8%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.73	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	36.40	kWh/m ² /yr	
Excess energy	0.7 (2.0%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.50		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	11.61 m ² , No overhang	
Windows facing West	3.30 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 12 001		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	A 12 001, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	81 B	DER	23.90	TER	22.60
Environmental	83 B	% DER<TER	-5.74		
CO₂ Emissions (t/year)	1.31	DFEE	37.51	TFEE	37.27
General Requirements Compliance	Fail	% DFEE<TFEE	-0.66		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.60	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.90	kgCO ₂ /m ²	
Excess emissions	1.30 (5.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.27	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.51	kWh/m ² /yr	
Excess energy	0.2 (0.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	3.96 m ² , No overhang	
Windows facing North East	8.37 m ² , No overhang	
Windows facing East	8.34 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 12 002		Issued on Date	28/10/2021	
Assessment Reference	001	Prop Type Ref			
Property	A 12 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	82 B	DER	22.25	TER	21.38
Environmental	84 B	% DER<TER	-4.05		
CO₂ Emissions (t/year)	1.24	DFEE	34.46	TFEE	33.21
General Requirements Compliance	Fail	% DFEE<TFEE	-3.76		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.38	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	22.25	kgCO ₂ /m ²	
Excess emissions	0.87 (4.1%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	33.21	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	34.46	kWh/m ² /yr	
Excess energy	1.3 (3.9%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	3.96 m ² , No overhang	
Windows facing East	8.34 m ² , No overhang	
Windows facing South East	8.37 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 12 003	Issued on Date	28/10/2021	
Assessment Reference	003	Prop Type Ref		
Property	A 12 003, High Street, STAINES-UPON-THAMES, TW18 4DY			
SAP Rating	86 B	DER	19.39	
Environmental	88 B	% DER<TER	10.45	
CO₂ Emissions (t/year)	0.81	DFEE	25.65	
General Requirements Compliance	Fail	% DFEE<TFEE	-5.41	
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com		Assessor ID	T575-0001
Client				

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.65	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	19.39	kgCO ₂ /m ²	Pass
	-2.26 (-10.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.33	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	25.65	kWh/m ² /yr	
Excess energy	1.4 (5.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.50		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing South	7.02 m ² , No overhang	
Windows facing South West	5.52 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	None	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 12 004	Issued on Date	28/10/2021
Assessment Reference	004	Prop Type Ref	
Property	A 12 004, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	86 B	DER	19.39	TER	21.65
Environmental	88 B	% DER<TER	10.45		
CO ₂ Emissions (t/year)	0.81	DFEE	25.65	TFEE	24.33
General Requirements Compliance	Fail	% DFEE<TFEE	-5.41		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	21.65	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	19.39	kgCO ₂ /m ²	Pass
	-2.26 (-10.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	24.33	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	25.65	kWh/m ² /yr	
Excess energy	1.4 (5.8%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.50		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing South East	5.52 m ² , No overhang	
Windows facing South	7.02 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	None	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 12 005		Issued on Date	28/10/2021	
Assessment Reference	005	Prop Type Ref			
Property	A 12 005, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	83 B	DER	21.29	TER	20.66
Environmental	84 B	% DER<TER	-3.07		
CO₂ Emissions (t/year)	1.19	DFEE	32.69	TFEE	30.80
General Requirements Compliance	Fail	% DFEE<TFEE	-6.16		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	20.66	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	21.29	kgCO ₂ /m ²	
Excess emissions	0.63 (3.0%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.80	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	32.69	kWh/m ² /yr	
Excess energy	1.9 (6.2%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing South	3.96 m ² , No overhang	
Windows facing South West	8.37 m ² , No overhang	
Windows facing West	8.34 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 12 006		Issued on Date	28/10/2021	
Assessment Reference	006	Prop Type Ref			
Property	A 12 006, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	81 B	DER	23.90	TER	22.61
Environmental	83 B	% DER<TER	-5.73		
CO₂ Emissions (t/year)	1.31	DFEE	37.52	TFEE	37.28
General Requirements Compliance	Fail	% DFEE<TFEE	-0.63		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	22.61	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.90	kgCO ₂ /m ²	
Excess emissions	1.29 (5.7%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	37.28	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	37.52	kWh/m ² /yr	
Excess energy	0.2 (0.5%)	kWh/m ² /yr	Fail

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

Hot water storage	No cylinder	

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



6 Controls

Space heating controls	Appliance thermostats	Pass
Hot water controls	No cylinder	

7 Low energy lights

Percentage of fixed lights with low-energy fittings	100	%	
Minimum	75	%	Pass

8 Mechanical ventilation

Continuous supply and extract system			
Specific fan power	0.53		
Maximum	1.5		Pass
MVHR efficiency	90	%	
Minimum	70	%	Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)	Medium	Pass
Based on:		
Overshading	Average	
Windows facing North	3.96 m ² , No overhang	
Windows facing West	8.34 m ² , No overhang	
Windows facing North West	8.37 m ² , No overhang	
Air change rate	4.00 ach	
Blinds/curtains	Light-coloured curtain or roller blind, closed 100% of daylight hours	

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type	U-value		
Filled Cavity with Edge Sealing	0.00	W/m ² K	Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)		
Maximum	10.0		Pass

10 Key features

Party wall U-value	0.00	W/m ² K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 12 007		Issued on Date	28/10/2021	
Assessment Reference	007	Prop Type Ref			
Property	A 12 007, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	84 B	DER	23.61	TER	24.95
Environmental	85 B	% DER<TER	5.36		
CO₂ Emissions (t/year)	0.93	DFEE	33.71	TFEE	35.75
General Requirements Compliance	Pass	% DFEE<TFEE	5.70		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.95	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.61	kgCO ₂ /m ²	Pass
	-1.34 (-5.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.75	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.71	kWh/m ² /yr	
	-2.1 (-5.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

7.02 m², No overhang

Windows facing North East

5.46 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 12 008		Issued on Date	28/10/2021	
Assessment Reference	008	Prop Type Ref			
Property	A 12 008, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	84 B	DER	23.61	TER	24.95
Environmental	85 B	% DER<TER	5.36		
CO₂ Emissions (t/year)	0.93	DFEE	33.71	TFEE	35.75
General Requirements Compliance	Pass	% DFEE<TFEE	5.70		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.95	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	23.61	kgCO ₂ /m ²	Pass
	-1.34 (-5.4%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	35.75	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	33.71	kWh/m ² /yr	
	-2.1 (-5.9%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

7.02 m², No overhang

Windows facing North West

5.46 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 13 001	Issued on Date	28/10/2021
Assessment Reference	001	Prop Type Ref	
Property	A 13 001, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	78 C	DER	27.52	TER	26.52
Environmental	80 C	% DER<TER	-3.78		
CO ₂ Emissions (t/year)	1.52	DFEE	44.54	TFEE	50.13
General Requirements Compliance	Fail	% DFEE<TFEE	11.14		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	26.52	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	27.52	kgCO ₂ /m ²	
Excess emissions	1.00 (3.8%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	50.13	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	44.54	kWh/m ² /yr	
	-5.6 (-11.2%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing North

3.96 m², No overhang

Windows facing North East

8.37 m², No overhang

Windows facing East

8.34 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 13 002			Issued on Date	28/10/2021
Assessment Reference	002	Prop Type Ref			
Property	A 13 002, High Street, STAINES-UPON-THAMES, TW18 4DY				
SAP Rating	80 C	DER	24.72	TER	24.32
Environmental	82 B	% DER<TER	-1.66		
CO ₂ Emissions (t/year)	1.38	DFEE	39.42	TFEE	42.93
General Requirements Compliance	Fail	% DFEE<TFEE	8.18		
Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com			Assessor ID	T575-0001
Client					

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	24.32	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	24.72	kgCO ₂ /m ²	
Excess emissions	0.40 (1.6%)	kgCO ₂ /m ²	Fail

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	42.93	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	39.42	kWh/m ² /yr	
	-3.5 (-8.2%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.53

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing East

8.34 m², No overhang

Windows facing South East

8.37 m², No overhang

Windows facing South

3.96 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

Light-coloured curtain or roller blind, closed 100% of daylight hours

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Property Reference	BLA 13 003	Issued on Date	28/10/2021
Assessment Reference	003	Prop Type Ref	
Property	A 13 003, High Street, STAINES-UPON-THAMES, TW18 4DY		

SAP Rating	85 B	DER	20.96	TER	23.34
Environmental	87 B	% DER<TER	10.19		
CO ₂ Emissions (t/year)	0.87	DFEE	28.84	TFEE	30.16
General Requirements Compliance	Pass	% DFEE<TFEE	4.36		

Assessor Details	Mr. Lee Pickett, Vitec Consult, Tel: 07908 039916, lee.pickett@vitecconsult.com	Assessor ID	T575-0001

Client	

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Criterion 1 – Achieving the TER and TFEE rate

1a TER and DER

Fuel for main heating	Electricity		
Fuel factor	1.55 (electricity)		
Target Carbon Dioxide Emission Rate (TER)	23.34	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	20.96	kgCO ₂ /m ²	Pass
	-2.38 (-10.2%)	kgCO ₂ /m ²	

1b TFEE and DFEE

Target Fabric Energy Efficiency (TFEE)	30.16	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	28.84	kWh/m ² /yr	
	-1.4 (-4.6%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Roof	0.15 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.50 (max. 2.00)	1.50 (max. 3.30)	Pass

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals	4.50 (design value)	
Maximum	10.0	Pass

Limiting System Efficiencies

4 Heating efficiency

Main heating system	Room heaters - Electric Panel, convector or radiant heaters	
Secondary heating system	None	

5 Cylinder insulation

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Hot water storage

No cylinder

6 Controls

Space heating controls

Appliance thermostats

Pass

Hot water controls

No cylinder

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100

%

Minimum

75

%

Pass

8 Mechanical ventilation

Continuous supply and extract system

Specific fan power

0.50

Maximum

1.5

Pass

MVHR efficiency

90

%

Minimum

70

%

Pass

Criterion 3 – Limiting the effects of heat gains in summer

9 Summertime temperature

Overheating risk (Thames Valley)

Medium

Pass

Based on:

Overshading

Average

Windows facing South

7.02 m², No overhang

Windows facing South West

5.52 m², No overhang

Air change rate

4.00 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Filled Cavity with Edge Sealing

0.00

W/m²K

Pass

Air permeability and pressure testing

3 Air permeability

Air permeability at 50 pascals

4.50 (design value)

Maximum

10.0

Pass

10 Key features

Party wall U-value

0.00

W/m²K

This report has not been submitted through the Elmhurst Energy members' portal, therefore results are subject to change when the dwelling is completed.

APPENDIX B – INITIAL TM59 OVERHEATING ASSESSMENT



TM59 Overheating Analysis Former Debenhams, Staines

Document Reference: R120624

Issue: 003

Prepared by: R Pridgeon

Date: 09/02/2022

www.vitecconsult.com

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Scope and Exclusions

Vitec Consult has been commissioned to carry out this assessment as detailed in the document title.

The study is based on CIBSE TM59 Methodology.

All results and strategies are directly affected by the inputs listed in this document; any deviation from these is bound to output different results.

It is important to note that with any modelling exercise there are assumptions and approximations that have to be made. Details of assumptions made, and approximations used are supplied as part of the report.

All results are based on the output from computer modelling software which is based on climatic conditions and patterns of use bound not to be identical to the real-life situation. Therefore, these results should be read as those following the overheating mitigation risk calculation methodology, but not as guaranteed real-life observations.

Introduction

The purpose of this report is to detail the findings of a dynamic thermal simulation carried out for a proposed complex of apartments under the CIBSE TM59 thermal comfort methodology.

The dynamic thermal simulation has been carried out using DesignBuilder with EnergyPlus.

This report states the building data that has been used to generate the simulation, such as thermal building elements, heat gain elements and occupancy profiles (duration of predicted occupancy of each room/area per annum).

The outcome of the overheating analysis showed that all the rooms tested passed the TM59 assessment based on the information contained within this report.

This version of the analysis includes compliance with the acoustic requirements for apartments facing Thames Road to remain comfortable without reliance on opening windows.

Extent of Analysis

This report assesses compliance with CIBSE TM59:2017 Design methodology for the assessment of overheating risk in homes.

The methodology focuses on assessing the risk of overheating in normally occupied areas: Living rooms and bedrooms.

The study is based on dynamic simulation modelling (DSM), which estimates the indoor climate of the buildings over a period based on a range of factors including:

- Weather and climate predictions
- Solar heat gain through building façade
- Heat loss through building thermal envelope
- Building Heating, Ventilation and Air-conditioning

All results and strategies are directly affected by the inputs listed in this document; any deviation from these is bound to output different results.

It is important to note that with any modelling exercise there are assumptions and approximations that must be made. Details of assumptions made, and approximations used are supplied as part of the report.

All results are based on the output from computer modelling software which is based on climatic conditions and patterns of use bound not to be identical to the real-life situation. Therefore, these results should be read as those following the overheating mitigation risk calculation methodology, but not as guaranteed real-life observations.

The building has been modelled using DesignBuilder Dynamic Simulation Modelling Software, using the internationally approved EnergyPlus Simulation Engine.

The sample consists of a selection of studios based on overheating risk; the chosen apartments consist of all units on the lowest accommodation floor (floor 1).

CIBSE TM59 Assessment Criteria

Criteria for homes that are predominantly naturally ventilated:

- a) For living rooms, kitchens, and bedrooms: the number of hours during which DT is greater than or equal to one degree (K) during the period May to September inclusive shall not be more than 3 percent of occupied hours. (CIBSE TM52 Criterion 1: Hours of exceedance).
- b) For bedrooms only: to guarantee comfort during the sleeping hours the operative temperature in the bedroom from 10 pm to 7 am shall not exceed 26 °ΔC for more than 1% of annual hours. (Note: 1% of the annual hours between 22:00 and 07:00 for bedrooms is 32 hours, so 33 or more hours above 26 °ΔC will be recorded as a fail).

Criteria for homes that are predominantly mechanically ventilated:

For homes with restricted window openings, the CIBSE 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 the annual occupied annual hours (CIBSE Guide A (2015a)).

Criteria for corridors:

The overheating test for corridors should be based on the number of annual hours for which an operative temperature of 28 °ΔC is exceeded. Whilst there is no mandatory target, if an operative temperature of 28 °ΔC is exceeded for more than 3% of total annual hours, this should be flagged as a significant risk within the report.

TM59 Methodology:

TM59 provides detailed criteria for the configuration of the model and simulation software, covering:

- Sampling of dwellings
- Weather data
- Exposure, air infiltration and mechanical bedrooms
- Window and door openings, blinds and shading devices
- Internal air speed and mixing
- Heat losses and gains from pipework
- Occupancy and Internal heat gains

Internal Conditions

Defined by dynamic simulation model as per TM59:2017, Section 6, Table 2:

Table 2 Occupancy and equipment gain descriptions

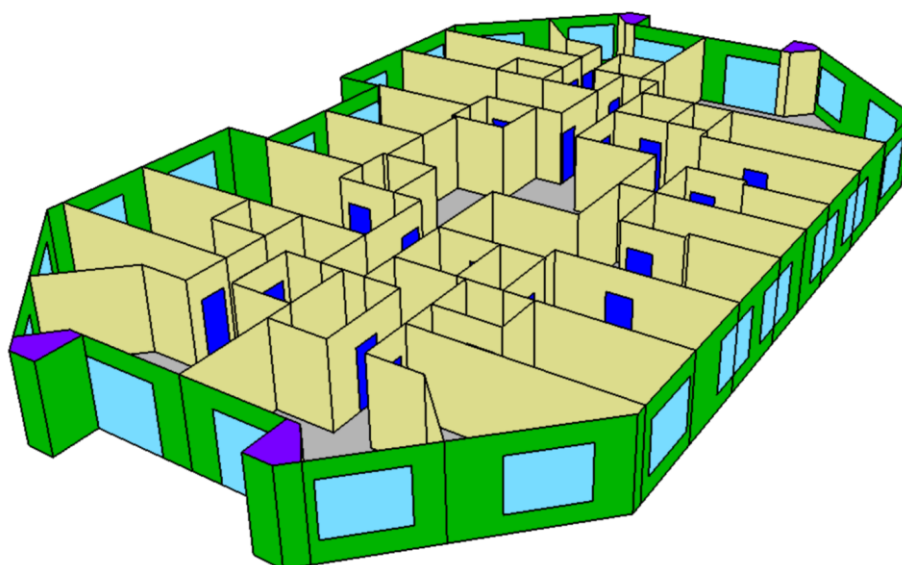
Unit/ room type	Occupancy	Equipment load
Studio	2 people at 70% gains from 11 pm to 8 am 2 people at 100% gains from 8 am to 11 pm	Peak load of 450 W from 6 pm to 8 pm*. 200 W from 8 pm to 10 pm 110 W from 9 am to 6 pm and 10 pm to 12 pm Base load of 85 W for the rest of the day
1-bedroom apartment: living room/kitchen	1 person from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 450 W from 6 pm to 8 pm 200 W from 8 pm to 10 pm 110 W from 9 am to 6 pm and from 10 pm to 12 pm Base load of 85 W for the rest of the day
1-bedroom apartment: living room	1 person at 75% gains from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 150 W from 6 pm to 10 pm 60 W from 9 am to 6 pm and from 10 pm to 12 pm Base load of 35 W for the rest of the day
1-bedroom apartment: kitchen	1 person at 25% gains from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 300 W from 6 pm to 8 pm Base load of 50 W for the rest of the day
2-bedroom apartment: living room/kitchen	2 people from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 450 W from 6 pm to 8 pm 200 W from 8 pm to 10 pm 110 W from 9 am to 6 pm and from 10 pm to 12 pm Base load of 85 W for the rest of the day
2-bedroom apartment: living room	2 people at 75% gains from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 150 W from 6 pm to 10 pm 60 W from 9 am to 6 pm and from 10 pm to 12 pm Base load of 35 W for the rest of the day
2-bedroom apartment: kitchen	2 people at 25% gains from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 300 W from 6 pm to 8 pm Base load of 50 W for the rest of the day
3-bedroom apartment: living room/kitchen	3 people from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 450 W from 6 pm to 8 pm 200W from 8 pm to 10 pm 110 W from 9 am to 6 pm and from 10 pm to 12 pm Base load of 85 W for the rest of the day
3-bedroom apartment: living room	3 people at 75% gains from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 150 W from 6 pm to 10 pm 60 W from 9 am to 6 pm and from 10 pm to 12 pm Base load of 35 W for the rest of the day
3-bedroom apartment: kitchen	3 people at 25% gains from 9 am to 10 pm; room is unoccupied for the rest of the day	Peak load of 300 W from 6 pm to 8 pm base load of 50 W for the rest of the day
Double bedroom	2 people at 70% gains from 11 pm to 8 am 2 people at full gains from 8 am to 9 am and from 10 pm to 11 pm 1 person at full gains in the bedroom from 9 am to 10 pm	Peak load of 80 W from 8 am to 11 pm Base load of 10 W during the sleeping hours
Single bedroom (too small to accommodate double bed)	1 person at 70% gains from 11 pm to 8 am 1 person at full gains from 8 am to 11 pm	Peak load of 80 W from 8 am to 11 pm Base load of 10 W during sleeping hours
Communal corridors	Assumed to be zero	Pipework heat loss only; see section 3.1 above

* All times in GMT

Adjacent Buildings

Details of any adjacent buildings have not been used in the model. This is the optimum method for overheating analysis, as no reliance has been made on shading from adjacent structures to prevent overheating.

Building Model



3D Rendering of residential floor



Typical residential floor layout

Building Data

The following information has been used to produce the building model:

Drawings

Drawing pack 2500

Weather Data

Data File CIBSE London DSY1 2020, high emissions, 50% percentile scenario

Building Services

HVAC Mechanical Ventilation System providing up to 1 air change per hour

Lighting Part L1A compliant lighting scheme

Construction Properties

The following values have been used and are taken from the Energy Statement completed for the project:

U-values Compliant with approved document L1A

Window properties Compliant with approved document L1A

$g=0.63$

33% free aperture on windows

Free aperture as per drawing on glazed balcony doors

No blinds assumed

Infiltration Rate $<2.5 \text{ m}^3/\text{hm}^2@50\text{pa}$

Building crack template (defined by IEA Technical note AIVC-44)

Ventilation Strategy

Mechanical ventilation is provided by MVHR units

Natural (purge) ventilation is provided by opening windows as per the proposed façade design. The windows are simulated to be opened when a room is occupied and the operative temperature in the room is above 22°C.

Apartments with windows facing Thames Road are assumed to be unable to open their windows and are therefore provided with VRF air conditioning.

The rate of natural ventilation depends upon the strength and direction of the wind, and its interaction with the available openings.

Air infiltration through other openings, vents and cracks in the building structure is simulated and included in the natural ventilation rate.

Results

The building as designed has been found to meet the TM59 thermal comfort criteria in all of the tested zones, based on the criteria for predominantly naturally ventilated buildings.

Apartments fitted with air conditioning are tested against CIBSE guide A criteria as explained above.

Block	Zone	Criterion A (%)	Criterion B (hr)	Guide A (%)	Pass/Fail
T1 1F	U01 Bed1	0	24.33		Pass
	U01 Bed2	0	19.67		Pass
	U01 LDK	0	N/A		Pass
	U02 Bed1	0	28		Pass
	U02 Bed2	0	18.17		Pass
	U02 LDK	0	N/A		Pass
	U03 Bed1			1.13	Pass
	U03 Bed2			1.91	Pass
	U03 LDK			1.31	Pass
	U04 Bed1			1.31	Pass
	U04 Bed2			1.52	Pass
	U04 LDK			1.88	Pass
	U05 Bed	0	4.67		Pass
	U05 LDK	0	N/A		Pass
	U06 Bed	0	5.33		Pass
	U06 LDK	0	N/A		Pass
	U07 Bed1	0	12.67		Pass
	U07 Bed2	0	12.5		Pass
	U07 LDK	0	N/A		Pass
T1 1F	U01 Bed1	0	20.83		Pass
	U01 Bed2	0	18.67		Pass
	U01 LDK	0	N/A		Pass
	U02 Bed1	0	32.33		Pass
	U02 Bed2	0	17.5		Pass
	U02 LDK	0	N/A		Pass
	U03 Bed1	0	14.5		Pass
	U03 Bed2	0	18.83		Pass
	U03 LDK	0	N/A		Pass
	U04 Bed1			2.82	Pass
	U04 Bed2			2.05	Pass
	U04 LDK			2.13	Pass
	U05 Bed			2.36	Pass
	U05 LDK			2.32	Pass
	U06 Bed			2.08	Pass
	U06 LDK			2.18	Pass
	U07 Bed1			2.67	Pass
	U07 Bed2			2.49	Pass
	U07 LDK			2.14	Pass