

Predicted Energy Assessment



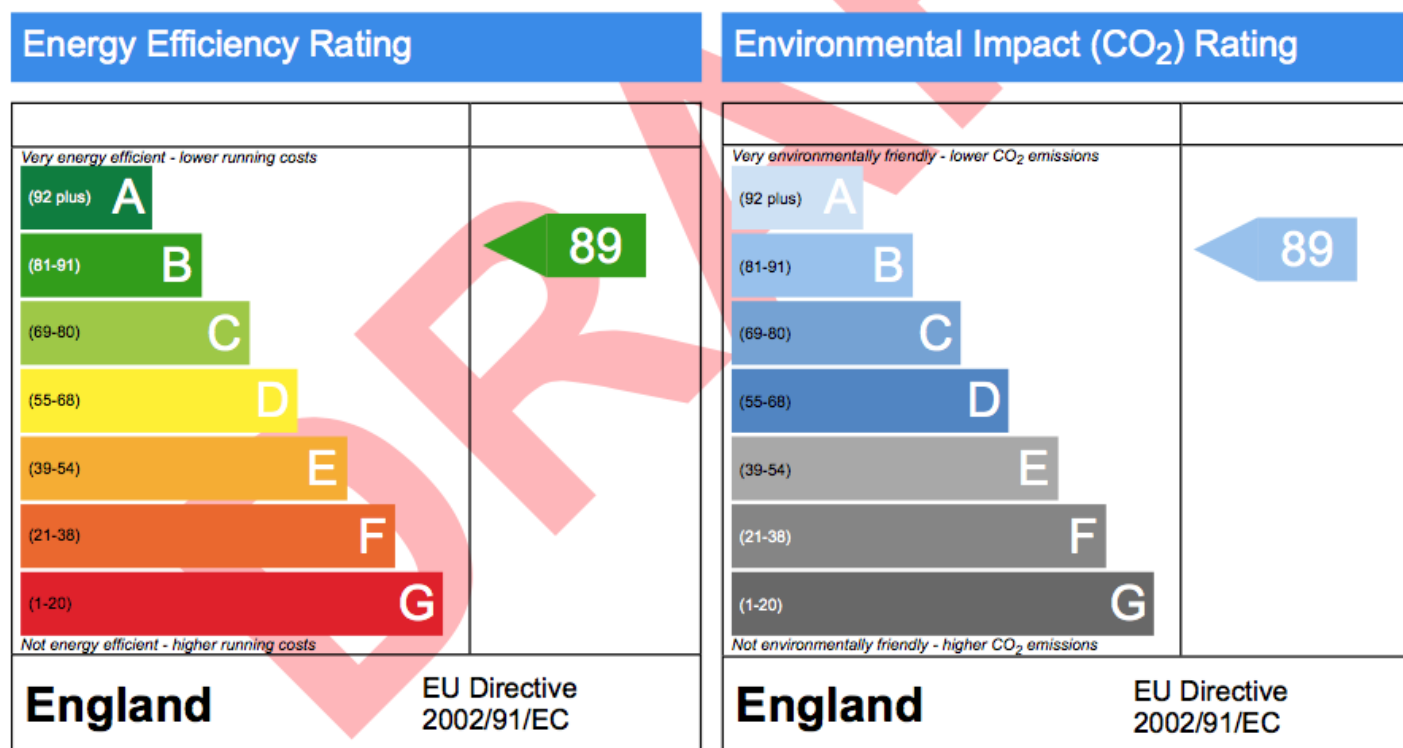
185 Hursley Road, Chandler's Ford, SO53 1JH

Dwelling type:
Date of assessment:
Produced by:
Total floor area:
DRRN:

House, Detached
05/07/2023
Thomas Pope
145 m²

This document is a Predicted Energy Assessment for properties marketed when they are incomplete. It includes a predicted energy rating which might not represent the final energy rating of the property on completion. Once the property is completed, this rating will be updated and an official Energy Performance Certificate will be created for the property. This will include more detailed information about the energy performance of the completed property.

The energy performance has been assessed using the Government approved SAP 10 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO₂) emissions.



The energy efficiency rating is a measure of the overall efficiency of a home. The higher the rating the more energy efficient the home is and the lower the fuel bills are likely to be.

The environmental impact rating is a measure of a home's impact on the environment in terms of carbon dioxide (CO₂) emissions. The higher the rating the less impact it has on the environment.

7 Lighting		
Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	16 lm/W	
External lights control	N/A	
8 Mechanical ventilation		
System type: N/A		
Maximum permitted specific fan power	N/A	
Specific fan power	N/A	N/A
Minimum permitted heat recovery efficiency	N/A	
Heat recovery efficiency	N/A	N/A
Manufacturer/Model		
Commissioning		
9 Local generation		
Technology type: Photovoltaic system (1)		
Peak power	3 kWp	
Orientation	South	
Pitch	Horizontal	
Overshading	1 (overshading factor calculated according to MCS)	
Manufacturer		
MCS certificate		
10 Heat networks		
N/A		
11 Supporting documentary evidence		
N/A		
12 Declarations		
a. Assessor Declaration		
This declaration by the assessor is confirmation that the contents of this BREL Compliance Report are a true and accurate reflection based upon the design information submitted for this dwelling for the purpose of carrying out the "As designed" assessment, and that the supporting documentary evidence (SAP Conventions, Appendix 1 (documentary evidence) schedules the minimum documentary evidence required) has been reviewed in the course of preparing this BREL Compliance Report.		
Signed:	Assessor ID:	
Name:	Date:	
b. Client Declaration		
N/A		

2d Thermal bridging (better than typically expected values are flagged with a subsequent (!))				
Building part 1 - Main Dwelling: Thermal bridging calculated from linear thermal transmittances for each junction				
Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E1: Steel lintel with perforated steel base plate	Not government-approved scheme	0.028 (!)	LABC
External wall	E3: Sill	Not government-approved scheme	0.016 (!)	LABC
External wall	E4: Jamb	Not government-approved scheme	0.011 (!)	LABC
External wall	E5: Ground floor (normal)	Not government-approved scheme	0.059	LABC
External wall	E6: Intermediate floor within a dwelling	Not government-approved scheme	0 (!)	LABC
External wall	E16: Corner (normal)	Not government-approved scheme	0.054	LABC
External wall	E18: Party wall between dwellings	Not government-approved scheme	0.0385 (!)	LABC
External wall	E14: Flat roof	SAP table default	0.16	Default
External wall	E17: Corner (inverted - internal area greater than external area)	Not government-approved scheme	-0.1	LABC

3 Air permeability (better than typically expected values are flagged with a subsequent (!))	
Maximum permitted air permeability at 50Pa	8 m ³ /hm ²
Dwelling air permeability at 50Pa	4.5 m ³ /hm ² , Design value OK
Air permeability test certificate reference	

4 Space heating	
Main heating system 1: Boiler with radiators or underfloor heating - Mains gas	
Efficiency	89.0%
Emitter type	Radiators
Flow temperature	
System type	Combi boiler
Manufacturer	Ideal Boilers
Model	LOGIC CODE COMBI ESP1
Commissioning	
Secondary heating system: N/A	
Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water	
Cylinder/store - type: N/A	
Capacity	N/A
Declared heat loss	N/A
Primary pipework insulated	N/A
Manufacturer	
Model	
Commissioning	
Waste water heat recovery system 1 - type: N/A	
Efficiency	
Manufacturer	
Model	

6 Controls	
Main heating 1 - type: Programmer, room thermostat, and TRVs	
Function	
Ecodesign class	
Manufacturer	
Model	
Water heating - type: N/A	
Manufacturer	
Model	

Building Regulations England Part L (BREL) Compliance Report

Approved Document L1 2021 Edition, England assessed by Elmhurst Sap 10 SAP 10 program, 1.0

Project Information			
Assessed By	Thomas Pope	Building Type	House, Detached
OCDEA Registration	EES/013917	Assessment Date	2023-07-05

Dwelling Details			
Assessment Type	As designed	Total Floor Area	145m ²
Site Reference	J15872	Plot Reference	00001
Address	185 Hursley Road, Chandler's Ford, SO53 1JH		

Client Details	
Name	Mr Rick Geddes
Company	
Address	

This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.

1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Mains gas		
Target carbon dioxide emission rate	15.39 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	15.13 kgCO ₂ /m ²		OK

1b Target primary energy rate and dwelling primary energy			
Target primary energy	81.24 kWh _{PE} /m ²		
Dwelling primary energy	78.4 kWh _{PE} /m ²		OK

1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	47.9 kWh/m ²		
Dwelling fabric energy efficiency	42.1 kWh/m ²		OK

2a Fabric U-values				
Element	Maximum permitted average U-Value [W/m ² K]	Dwelling average U-Value [W/m ² K]	Element with highest individual U-Value	
External walls	0.26	0.16	Walls (1) (0.16)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.6	0	N/A	N/A
Floors	0.18	0.11	Heatloss Floor 1 (0.11)	OK
Roofs	0.16	0.11	Roof (2) (0.15)	OK
Windows, doors, and roof windows	1.6	1.14	Windows East (1.2)	OK
Rooflights	2.2	N/A	N/A	N/A

2b Envelope elements (better than typically expected values are flagged with a subsequent (!))		
Name	Net area [m ²]	U-Value [W/m ² K]
Exposed wall: Walls (1)	131.1	0.16
Party wall: Party Wall (1)	7.14	0 (!)
Ground floor: Heatloss Floor 1, Heatloss Floor 1	24.43	0.11
Exposed roof: Roof (1)	22	0.11
Exposed roof: Roof (2)	2.16	0.15

2c Openings (better than typically expected values are flagged with a subsequent (!))				
Name	Area [m ²]	Orientation	Frame factor	U-Value [W/m ² K]
Front Door East, Front Door	2.31	East	N/A	1 (!)
Windows East, Windows & Patio Door	0.72	East	0.7	1.2
Windows East, Windows & Patio Door	2.16	East	0.7	1.2
Windows East, Windows & Patio Door	4.14	East	0.7	1.2
Windows East, Windows & Patio Door	0.84	East	0.7	1.2
Windows East, Windows & Patio Door	0.84	East	0.7	1.2
Back Door, Back Door	2.1	East	N/A	1 (!)
Windows West, Windows & Patio Door	0.57	West	0.7	1.2
Windows West, Windows & Patio Door	0.27	West	0.7	1.2
Windows West, Windows & Patio Door	0.27	West	0.7	1.2

BASIC COMPLIANCE REPORT

Calculation Type: New Build (As Designed)



Main heating system

Boiler system with radiators or underfloor - Mains gas
Data from database
Ideal LOGIC CODE COMBI ESP1 26
Combi boiler
Efficiency: 89.6% SEDBUK2009
Minimum: 88.0%

Pass

Secondary heating system

None

5 Cylinder insulation

Hot water storage

No cylinder

6 Controls

Space heating controls

Programmer, room thermostat and TRVs

Pass

Hot water controls

No cylinder

Boiler interlock

Yes

Pass

7 Low energy lights

Percentage of fixed lights with low-energy fittings

100 %

Minimum

75 %

Pass

8 Mechanical ventilation

Not applicable

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 East

5.88 m², No overhang

Windows facing West

0.84 m², No overhang

Air change rate

2.50 ach

Blinds/curtains

None

Criterion 4 – Building performance consistent with DER and DFEE rate

Party Walls

Type

U-value

Solid Wall

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

Roof U-value

0.11 W/m²K

Door U-value

1.00 W/m²K

Photovoltaic array

2.00 kW

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	001000	Issued on Date	05/07/2023
Assessment Reference	001	Prop Type Ref	2012 design
Property	185 Hursley Road, Chandler's Ford, SO53 1JH		
SAP Rating	92 A	DER	10.02
Environmental	94 A	TER	22.32
CO₂ Emissions (t/year)	0.20	% DER<TER	55.11
General Requirements Compliance	Pass	DFEE	57.30
		TFEE	68.76
		% DFEE<TFEE	19.5
Assessor Details	Mr. Thomas Pope, Energy Report Ltd, Tel: 07388648348 tom@energyreport.co.uk		Assessor ID f764-0001
Client	Mr Rick Geddes		

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	Mains gas		
Fuel factor	1.00 (mains gas)		
Target Carbon Dioxide Emission Rate (TER)	22.32	kgCO ₂ /m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	10.02	kgCO ₂ /m ²	Pass
	-12.30 (-55.1%)	kgCO ₂ /m ²	

1b TFE and DFEE

Target Fabric Energy Efficiency (TFEE)	68.76	kWh/m ² /yr	
Dwelling Fabric Energy Efficiency (DFEE)	57.30	kWh/m ² /yr	
	-11.46 (-19.5%)	kWh/m ² /yr	Pass

Criterion 2 – Limits on design flexibility

Limiting Fabric Standards

2 Fabric U-values

Element	Average	Highest	
External wall	0.16 (max. 0.30)	0.16 (max. 0.70)	Pass
Party wall	0.00 (max. 0.20)	-	Pass
Floor	0.14 (max. 0.25)	0.14 (max. 0.70)	Pass
Roof	0.11 (max. 0.20)	0.15 (max. 0.35)	Pass
Openings	1.12 (max. 2.00)	1.20 (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

Construction Specification for Part L (2021) Compliance



Project :	Hursley Road	
Job no.	J15872	
Revision	1	
Date	05/07/2023	
Building regs version	AD L Approved Document L 2021 Edition	
Planning Requirement	19% reduction in CO2 above Part L 2013	-55%

Item	Specification	U value		NEW	
		Calculated	Min requirement	Evidence required	
Main Walls	External Block 100mm, Cavity fully filled with 115mm Celotex Thermaclass cavity insulation, 100mm standard block, Aircrete 0.45 W/mK	0.16	0.26	YES	PHOTO
Main Roof - Flat	100mm plus 110mm Kingspan Thermarroof	0.10	0.16		
Floor - GROUND	130mm Celotex below screed	0.11	0.18	YES	PHOTO
Glazing	Windows	1.20	1.60	YES	PHOTO
Doors	Solid Front Door	1.00	1.60	YES	PHOTO
Space Heating	Ideal Logic Code Combi ESP1 - boiler			YES	COMMISSIONING CERTIFICATE + PHOTO
Thermal Bridging	LABC Approved Thermal Bridges - See appendix A			YES	PHOTO
Lighting	All lighting to meet a minimum of Efficacy - 100 lumen / watt			YES	PRODUCT DETAIL
Electricity Tariff	Single				
Ventilation	3* intermitnet extract fans to kitchen, utility and bathrooms/wc			YES	EXTRACT TEST CERTIFICATE
Controls	Zone time and temperature control			YES	PRODUCT DETAIL
Hot water	None			YES	EXTRACT TEST CERTIFICATE
Secondary Heating	-			YES	EXTRACT TEST CERTIFICATE
Air Leakage test at 50Pa	4.5			YES	AIR LEAKAGE TEST CERTIFICATE
Renewables	2 kWhp on flat roof			YES	MSC CERTIFICATE
% reduction in DER	N/A				
Predicted EPC reating	89 B				

NEW EVIDENCE REQUIREMENTS ADL1 2021	Photographs should be taken for each dwelling on a development as a record during the construction of a property. The photographs should be made available to the energy assessor and the building control body. Anyone may take the photographs. Photographs should be taken of typical details as listed below and should be unique to each property. One photograph per detail should be recorded. Additional images, such as a closeup detail, should be provided only when necessary (see below). Photographs should be taken at appropriate construction stages for each detail when completed, but prior to closing-up works.
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ENERGYREPORT

building certification | compliance | testing

Design Stage SAP Compliance Report

Project:

185 Hursley Road,
Chandler's Ford, SO53 1JH

Client:

Mr Rick Geddes

Project Reference:

J15872

Date:

5th July 2023