Building Regulation Compliance

Property Reference: 19-0009 - Matthew Lane - 3
Survey Reference: As Designed
Property: Matthew Lane , BD20

Issued on Date: 29.Mar.2019
Prop Type Ref: Detached

SAP Rating:	84 B	**CO2 Emissions (t/year):**	2.98	**DER:** 14.86 Pass	**Reduction:** 6.7%	**FEE:** 57.7	**ZC8:**	0.00
Environmental:	85 B	**General Requirements Compliance:**	Pass	**TER:** 15.92		**HLP:** 1.33	**Energy cost:**	£ 803

CfSH Results	**Version:**	**ENE1 Credits:**	N/A	**ENE2 Credits:**	N/A	**ENE7 Credits:**	N/A	**CfSH Level:**	N/A

Surveyor: Jack Vogel, Tel: 0844 443 0059 Surveyor ID: P767-0001
Address: T1 Trafford Point, Twining Road, Manchester, Greater Manchester, M17 1SH
Client:

Software Version: Elmhurst Energy Systems SAP2009 Calculator (Design System) version 4.04r04
SAP version: SAP 2009, Regs Region: England and Wales (Part L1A 2010), Calculation Type: New Dwelling As Designed

SUMMARY FOR INPUT DATA FOR New Build (As Designed)

1 TER and DER

Fuel for main heating:	Mains gas	
Fuel factor:	1.00 (mains gas)	
Target Carbon Dioxide Emission Rate (TER)	15.92 kg/m^2	
Dwelling Carbon Dioxide Emission Rate (DER)	14.86 kg/m^2	OK

2 Fabric U-values

Element	Average	Highest	
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)	OK
Floor	0.16 (max. 0.25)	0.16 (max. 0.70)	OK
Roof	0.11 (max. 0.20)	0.11 (max. 0.35)	OK
Openings	1.60 (max. 2.00)	1.60 (max. 3.30)	OK

2a Thermal bridging

Thermal bridging calculated from linear thermal transmittances for each junction

3 Air permeability

Air permeability at 50 pascals:	7.00 (design value)	
Maximum	10.0	OK

4 Heating efficiency

Main heating system:	Boiler system with radiators or underfloor - Mains gas Data from database Worcester Greenstar R 28 HE System Efficiency: 88.8% SEDBUK2009 Minimum: 88.0%	OK
Secondary heating system:	Room heaters - Wood Logs RWM Closed room heat Efficiency: 65% Minimum: 65%	OK

5 Cylinder insulation

Hot water storage	Measured cylinder loss: 2.30 kWh/day Permitted by DBSCG 2.56	OK
Primary pipework insulated:	Yes	OK

6 Controls

Space heating controls:	Time and temperature zone control	OK
Hot water controls:	Cylinderstat	OK
	Independent timer for DHW	OK
Boiler interlock	Yes	OK

7 Low energy lights

Percentage of fixed lights with low-energy fittings:	100%	
Minimum	75%	OK

8 Mechanical ventilation

Not applicable

9 Summertime temperature

Overheating risk (East Pennines):	Not significant	OK
Based On:		
Overshading:	Average	
Windows facing North:	16.42 m^2, No overhang	
Windows facing East:	2.57 m^2, No overhang	
Windows facing South:	15.08 m^2, No overhang	
Windows facing West:	5.32 m^2, No overhang	
Ventilation rate:	8.00	
Blinds/curtains:	None	

10 Key features

Roof U-value	0.11 W/m^2K
Floor U-value	0.16 W/m^2K
Secondary heating (wood logs)	
Secondary heating fuel:	wood logs

Predicted Energy Assessment

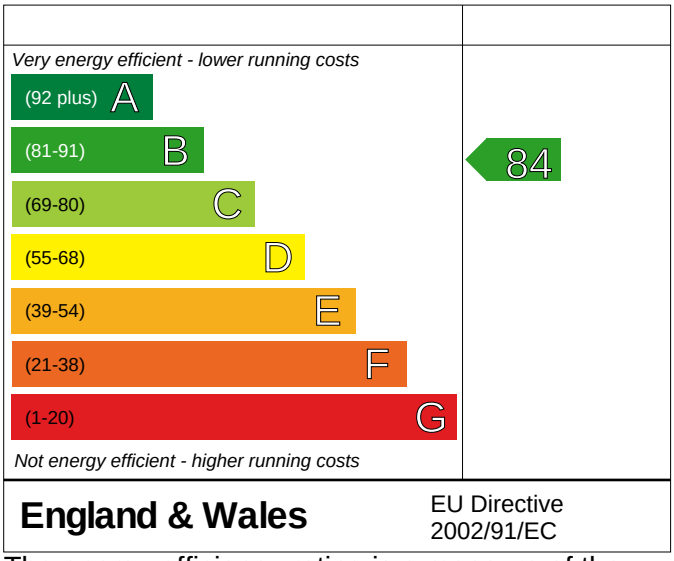
Matthew Lane ,
BD20

Dwelling type:	House, Detached
Date of assessment:	29.Mar.2019
Produced by:	SIG360 Technical Centre
Total floor area:	216.03 m^2

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.

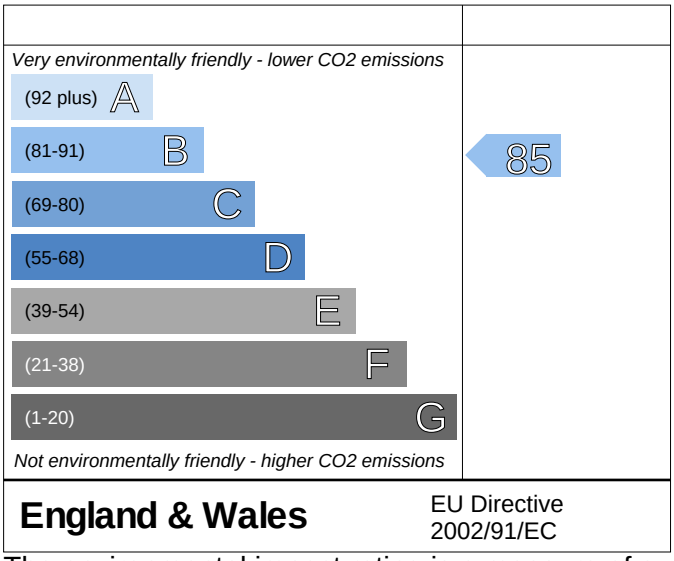
The energy performance has been assessed using the Government approved SAP2009 methodology and is rated in terms of the energy use per square meter of floor area; the energy efficiency is based on fuel costs and the environmental impact is based on carbon dioxide (CO2) emissions.

Energy Efficiency Rating



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.

Environmental Impact (CO2) Rating



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.

SURVEY NOTES

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Prop Type Ref: Detached

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Environmental:	85 B	**General Requirements Compliance:**	Pass	**TER:**	15.92			**HLP:** 1.33	**Energy cost:** £ 803

CfSH Results	**Version:**	**ENE1 Credits:**	N/A	**ENE2 Credits:**	N/A	**ENE7 Credits:**	N/A	**CfSH Level:**	N/A

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Summary Information

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SUMMARY FOR INPUT DATA FOR New Build (As Designed)

Orientation	North
1.0 Property Type	House, Detached
2.0 Number of Storeys	2
3.0 Date Built	2019
3.0 Property Age Band	
4.0 Sheltered Sides	2
5.0 Sunlight/Shade	Average or unknown

6.0 Measurements

	Internal Perimeter	Internal Floor Area	Average Storey Height
Ground Floor:	51.94	109.32	2.42
1st Storey:	49.29	106.71	2.6

7.0 Living Area	32.44
8.0 Thermal Mass Parameter	Simple calculation - Medium

9.0 External Walls

Description	Construction	U-Value	Element	Kappa	Gross Area	Nett Area
External Wall - Main	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.21		60.00	251.00	207.83
External Wall - Garage	Cavity wall : plasterboard on dabs, AAC block, filled cavity, any outside structure	0.21		60.00	9.68	9.68

10.0 External Roofs

Description	Construction	U-Value	Element	Kappa	Gross Area	Nett Area
External Roof - Main	Plasterboard, insulated at ceiling level	0.11		9	109.31	109.31

11.0 HeatLoss Floors

Description	Construction	U-Value	Element	Kappa	Area
Heat Loss Floor - Solid	Slab on ground, screed over insulation	0.16		110	109.32

12.0 Opening Types

Description	Data Source	Type	Glazing	Glazing Gap	Argon Filled	Solar Trans	Frame Type	Frame Factor	U value
Windows	Manufacturer	Window	Double glazed			0.76		0.70	1.60
Doors	Manufacturer	Solid Door							1.60
Rear Doors	Manufacturer	Half Glazed Door	Double glazed			0.76		0.70	1.60

13.0 Openings

Name	Opening Type	Location	Orientation	Curtain Type	Overhang Ratio	Wide Overhang	Width	Height	Count	Area	Curtain Closed
Front windows	Window - Windows	External Wall - Main	North	None	0	No	0	0	0	16.42	0
Entrance door	Solid Door - Doors	External Wall - Main	North	None	0	No	0	0	0	1.89	0
Side windows	Window - Windows	External Wall - Main	West	None	0	No	0	0	0	5.32	0
Side windows	Window - Windows	External Wall - Main	East	None	0	No	0	0	0	2.57	0

Rear windows	Window - Windows	External Wall - Main	South	None	0	No	0	0	0	15.08	0
Rear door	Half Glazed Door - Rear Doors	External Wall - Main	South	None	0	No	0	0	0	1.89	0

14.0 Conservatory: None
15.0 Draught Proofing: 100
16.0 Draught Lobby: No

17.0 Thermal Bridging: Calculate Bridges

17.1 List of Bridges

Source Type	Bridge Type	Length	Psi	Imported
Table K1 - Accredited	E2 Other lintels (including other steel lintels)	31.29	0.3	Yes
Table K1 - Accredited	E3 Sill	29.49	0.04	Yes
Table K1 - Accredited	E4 Jamb	55.63	0.05	Yes
Table K1 - Accredited	E5 Ground floor	51.94	0.16	Yes
Table K1 - Accredited	E6 Intermediate floor within a dwelling	49.29	0.07	Yes
Table K1 - Accredited	E16 Corner (normal)	45.00	0.09	No
Table K1 - Accredited	E17 Corner (inverted - internal area greater than external area)	24.92	-0.09	No
Table K1 - Accredited	E10 Eaves (insulation at ceiling level)	35.44	0.06	No
Table K1 - Accredited	E12 Gable (insulation at ceiling level)	18.47	0.24	No

18.0 Pressure Testing: Yes
- Designed q50: 7.00
- Property Tested ?
- As Built q50
- Same As Designed ?

19.0 Mechanical Ventilation
- Mechanical Ventilation System Present: No
- Approved Installation
- Windows open in hot weather: Windows fully open
- Cross ventilation possible: Yes
- Night Ventilation: Yes
- Air change rate: 8.00
- Mechanical Ventilation data Type
- Type
- MV Reference Number
- Configuration
- MVHR Duct Insulated
- Manufacturer SFP
- Duct Type
- MVHR Efficiency
- Wet Rooms
- Brand, Model

20.0 Fans, Open Fireplaces, Flues

	MHS	SHS	Other	Total
Number of Chimneys	0	0	0	0
Number of open flues	0	0	2	2
Number of intermittent fans				6
Number of passive vents				0
Number of flueless gas fires				0

21.0 Cooling System: No

22.0 Lighting
- Internal
  - Total number of light fittings: 20
  - Total number of L.E.L. fittings: 20
  - Percentage of L.E.L. fittings: 100.00
- External
  - External lights fitted: Yes
  - Light and motion sensors: Yes

23.0 Electricity Tariff: Standard

24.0 Heating Systems
- Main Heating 1: Database
  - Description
  - Percentage of Heat: 100.00
- Main Heating 2: None
  - Description
  - Percentage of Heat
- Community Heating
- Secondary Heating: SAP table

Water Heating	Main Heating 1
Flue Gas Heat Recovery System	No
Waste Water Heat Recovery System 1	No
Waste Water Heat Recovery System 2	No
Solar Panel	No
25.0 Main Heating 1	
Database Ref. No.	9718
Fuel Type	Mains gas
Main Heating	Mains gas BGB Post 98 Regular condens. with auto ign.
TestMethod	
SAP Code	102
Efficiency (Split Efficiences) %	
Efficiency (Split Efficiences) %	
In Winter	89.8
In Summer	79.1
Model Name	
Manufacturer	
Controls	CBI Time and temperature zone control
Delayed Start Stat	Yes
Sap Code	2110
Burner Control	
Boiler Compensator	WeatherCompensator
HETAS approved System	
Oil Pump Inside	
FI Case	
FI Water	
Flue Type	Balanced
Smoke Control Area	
Fan Assisted Flue	Yes
Is MHS Pumped	Pump in heated space
Heat Emitter	Radiators and Underfloor
Underfloor Heating	Yes - Pipes in thin screed
Electric CPSU Temperature	
Combi boiler type	
Combi keep hot type	
Combi store type	
27.0 Community Heating	
Space Community Heating	
Distribution Loss	
Distribution Loss Value	
Controls	
SAP Code	
Water Community Heating	
Distribution Loss	
Distribution Loss Value	
Charging Linked To Heat Use	
28.0 Secondary Heating	RWM
Description	Wood Logs RWM Closed room heat
SHS efficiency %	65
SAP Code	633
HETAS Approved System	Yes
Smoke Control Area	Unknown
Test Method	
Manufacturer	
Model Name	
29.0 Water Heating	HWP From main heating 1
Water use <= 125 litres/person/day	Yes
SAP Code	901
Immersion Heater	
Summer Immersion	
Suplementary Immersion	
Immersion Only Heating Hot Water	
29.1 Flue Gas Heat Recovery System	
Database ID	
Brand Model	
Details	
29.2 Waste Water Heat Recovery System	
Total rooms with shower and/or bath	
30.0 Hot Water Cylinder	Hot Water Cylinder
Cylinder Stat	Yes
Cylinder In Heated Space	Yes
Independent Time Control	Yes
Insulation Type	Measured Loss

Insulation Thickness	
Cylinder Volume	250
Loss (kwh/day)	2.3
Pipes insulation	Yes
In Airing Cupboard	
31.0 Solar Panel	
Solar Panel Area	
Area Type	
Panel Type	
n0, a1, A/G ratio	
Orientation	
Elevation	
Overshading	
Solar Storage Volume	
Pump electrically powered	
Combined Cylinder	
32.0 Thermal Store	None
Thermal Store Pipework	within a single casing
33.0 Photovoltaic Unit	
Apportioned KWh/Year	
34.0 Wind Turbines	
Terrain Type	Urban
Wind Turbines	
Count	
Apportioned Kwh/year	
Rotor Diameter	
Hub Height	
35.0 Small-scale Hydro	
Electricity Generated	
Description	
Apportioned kWh/Year	

Recommendations

None

Further measures to achieve even higher standards

Solar photovoltaic panels, 2.5 kWp	£291	B 89	B 89

Thermal Bridging

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	Junction detail	Source Type	Psi (W/mK)	Length (m)	Result	Reference
External wall	E2 Other lintels (including other steel lintels)	Table K1 - Accredited	0.300	31.29	9.39	
External wall	E3 Sill	Table K1 - Accredited	0.040	29.49	1.18	
External wall	E4 Jamb	Table K1 - Accredited	0.050	55.63	2.78	
External wall	E5 Ground floor	Table K1 - Accredited	0.160	51.94	8.31	
External wall	E6 Intermediate floor within a dwelling	Table K1 - Accredited	0.070	49.29	3.45	
External wall	E16 Corner (normal)	Table K1 - Accredited	0.090	45.00	4.05	
External wall	E17 Corner (inverted - internal area greater than external area)	Table K1 - Accredited	-0.090	24.92	-2.24	
External wall	E10 Eaves (insulation at ceiling level)	Table K1 - Accredited	0.060	35.44	2.13	
External wall	E12 Gable (insulation at ceiling level)	Table K1 - Accredited	0.240	18.47	4.43	

Total W/mK: 33.48
Y-Value W/m2K: 0.070