

Building Regulation Compliance

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Property Reference: 17-128 Site 6

Issued on Date: 22.Mar.2019

Survey Reference: Design SAP

Prop Type Ref: Type B

Property: Meadow View, NEWTOWNABBEY, County Antrim, BT37 0US

SAP Rating: 85 B **CO2 Emissions (t/year):** 2.66 **DER:** 15.39 Pass **Reduction:** 5.4% **FEE:** 51.0 **ZC8:** 0.00
Environmental: 85 B **General Requirements Compliance:** Pass **TER:** 16.26 **HLP:** 1.19 **Energy cost:** £ 666

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

Surveyor: Andrew Hair, Tel: 07742507544

Surveyor ID: H020-0001

Address: Drumcree Place, Newtownabbey, Antrim, BT37 9JA

Client:

Software Version: Elmhurst Energy Systems SAP2009 Calculator (Design System) version 4.04r04

SAP version: SAP 2009, **Regs Region:** Northern Ireland (NI Technical Booklet F1 2011), **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)	16.26 kg/m ²	
Dwelling Carbon Dioxide Emission Rate (DER)	15.39 kg/m ²	OK

2 Fabric U-values

Element	Average	Highest	
External wall	0.20 (max. 0.30)	0.20 (max. 0.70)	OK
Floor	0.16 (max. 0.25)	0.16 (max. 0.70)	OK
Roof	0.15 (max. 0.20)	0.17 (max. 0.35)	OK
Openings	0.95 (max. 2.00)	1.40 (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:	5.00 (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 30 CDi Classic System Efficiency: 89.2% SEDBUK2009 Minimum: 88.0%	OK
Secondary heating system:	None	

5 Cylinder insulation

Hot water storage	Measured cylinder loss: 2.10 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 (Northern Ireland):

Not significant

OK

Based On:

Overshading:

Average

Windows facing North East:

13.48 m², No overhang

Windows facing South East:

13.48 m², No overhang

Windows facing South West:

9.90 m², No overhang

Windows facing North West:

3.06 m², No overhang

Ventilation rate:

8.00

Blinds/curtains:

None

10 Key features

Roof U-value	0.12 W/m ² K
Floor U-value	0.16 W/m ² K
Door U-value	1.40 W/m ² K
Door U-value	1.40 W/m ² K
Window U-value	0.90 W/m ² K

Summary Information

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SUMMARY FOR INPUT DATA FOR New Build (As Designed)

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Orientation	South West
1.0 Property Type	House, Detached
2.0 Number of Storeys	3
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:	41.14	69.8	2.49
1st Storey:	34.64	61.49	2.8
2nd Storey:	32.57	59.29	2.49

7.0 Living Area 20.43

8.0 Thermal Mass Parameter Simple calculation - High

9.0 External Walls	Description	Construction	U-Value	Element	Kappa	Gross Area	Nett Area
External Walls		Cavity wall : dense plaster, dense block, filled cavity, any outside structure	0.20		190.00	263.22	219.29

10.0 External Roofs	Description	Construction	U-Value	Element	Kappa	Gross Area	Nett Area
Flat Ceiling		Plasterboard, insulated at ceiling level	0.12		9	37.96	37.96
Sloped Ceiling		Plasterboard, insulated slope	0.17		9	30.22	30.22
Flat Roof		Plasterboard, insulated flat roof	0.17		9	10.51	10.51

11.0 HeatLoss Floors	Description	Construction	U-Value	Element	Kappa	Area
Ground Floor		Slab on ground, screed over insulation	0.16		110	69.80

12.0 Opening Types	Description	Data Source	Type	Glazing	Glazing Gap	Argon Filled	Solar Trans	Frame Type	Frame Factor	U value
Windows	Manufacturer	Window		Triple Low-E Soft 0.1			0.57		0.70	0.90
Front Door	Manufacturer	Half Glazed Door		Double Low-E Soft 0.1			0.63		0.70	1.40
Rear Door	Manufacturer	Half Glazed Door		Double Low-E Soft 0.1			0.63		0.70	1.40

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 Walls	South West	None		0	No	0	0	0	9.90	0
Rear Windows	Window - Windows	External Walls	North East	None		0	No	0	0	0	13.48	0
Right Windows	Window - Windows	External Walls	South East	None		0	No	0	0	0	13.48	0

Left Windows	Window - Windows	External Walls	North West	None	0	No	0	0	0	3.06	0
Front Door	Half Glazed Door - Front Door	External Walls	South West	None	0	No	0	0	0	2.10	0
Side Door	Half Glazed Door - Rear Door	External Walls	South East	None	0	No	0	0	0	1.91	0

14.0 Conservatory	None
15.0 Draught Proofing	100
16.0 Draught Lobby	No

17.0 Thermal Bridging	Calculate Bridges
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17.1 List of Bridges

Source Type	Bridge Type	Length	Psi	Imported
Table K1 - Accredited	E2 Other lintels (including other steel lintels)	27.31	0.3	No
Table K1 - Accredited	E3 Sill	23.72	0.04	No
Table K1 - Accredited	E4 Jamb	48.90	0.05	No
Table K1 - Accredited	E5 Ground floor	41.14	0.16	Yes
Table K1 - Accredited	E6 Intermediate floor within a dwelling	67.21	0.07	Yes
Table K1 - Accredited	E11 Eaves (insulation at rafter level)	21.57	0.04	No
Table K1 - Accredited	E12 Gable (insulation at ceiling level)	7.08	0.24	No
Table K1 - Accredited	E13 Gable (insulation at rafter level)	5.54	0.04	No
Table K1 - Accredited	E14 Flat roof	13.26	0.04	No
Table K1 - Accredited	E16 Corner (normal)	32.32	0.09	No
Table K1 - Accredited	E17 Corner (inverted - internal area greater than external area)	6.29	-0.09	No

18.0 Pressure Testing	Yes
Designed q50	5.00
Property Tested ?	
As Built q50	
Same As Designed ?	

19.0 Mechanical Ventilation

Mechanical Ventilation System	No
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Present

Approved Installation	
Windows open in hot weather	Windows fully open
Cross ventilation possible	Yes
Night Ventilation	No
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
Number of open flues	0		0	0
Number of intermittent fans				5
Number of passive vents				0
Number of flueless gas fires				0

21.0 Cooling System	No
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22.0 Lighting

Internal

Total number of light fittings	25
Total number of L.E.L. fittings	25
Percentage of L.E.L. fittings	100.00

External

External lights fitted	Yes
Light and motion sensors	Yes

23.0 Electricity Tariff	Standard
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24.0 Heating Systems

Main Heating 1	Database
Description	Gas Heating
Percentage of Heat	100.00
Main Heating 2	None
Description	

Percentage of Heat		
Community Heating		
Secondary Heating		
Water Heating		
	Main Heating 1	
Flue Gas Heat Recovery System		
	No	
Waste Water Heat Recovery System		
	No	
1	Waste Water Heat Recovery System	
	No	
2	Solar Panel	
	No	
25.0 Main Heating 1		
Database Ref. No.		
	17313	
Fuel Type		
	Mains gas	
Main Heating		
	Mains gas BGB Post 98 Regular condens. with auto ign.	
TestMethod		
SAP Code		
	102	
Efficiency (Split Efficiencies) %		
Efficiency (Split Efficiencies) %		
	In Winter	90.2
	In Summer	79.5
Model Name		
Manufacturer		
Controls		
	CBI Time and temperature zone control	
Delayed Start Stat		
	No	
Sap Code		
	2110	
Burner Control		
Boiler Compensator		
	None	
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	
Underfloor Heating		
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		
Description		
SHS efficiency %		
SAP Code		
HETAS Approved System		
Smoke Control Area		
Test Method		
Manufacturer		
Model Name		
29.0 Water Heating		
	HWP From main heating 1	
Water use <= 125 litres/person/day		
	No	
SAP Code		
	901	
Immersion Heater		
Summer Immersion		
Supplementary 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	80
Cylinder Volume	250
Loss (kwh/day)	2.1
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
within a single casing

Thermal Store Pipework

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 90	B 90
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