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Our Reference : CJ-67

Sent By : E-Mail

16 January 2025

ENERGY STATEMENT (PLANNING)

Statement By :	Joe Solti Accredited SAP Assessor (Elmhurst)
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Thank you for sending the drawings. We are pleased to present our report as follows.

Development Details

Site Location :	Former Swelco Factory, Heol Y Gors, Cwmgors, Ammanford
Development :	45 Dwellings (16 Flats + 29 Houses)
Local Authority :	Neath Port Talbot
Policy (SP18) :	Renewable & Low Carbon Energy

Baseline (Target) CO2 : House Type 211 (Ground Floor)

Number of Units :	8
Total Floor Area :	50.1m ²
Base CO2 (TER) :	10.88 kg/m ² /year
Base CO2 (Total) :	545.09 kg/year x 8 flats = 4360.72 kg/year

Baseline (Target) CO2 : House Type 211 (First Floor)

Number of Units :	8
Total Floor Area :	60.2m ²
Base CO2 (TER) :	10.57 kg/m ² /year
Base CO2 (Total) :	626.32 kg/year x 8 flats = 5090.51 kg/year

Baseline (Target) CO2 : House Type 421

Number of Units :	16
Total Floor Area :	81.3m ²
Base CO2 (TER) :	9.53 kg/m ² /year
Base CO2 (Total) :	774.79 kg/year x 16 houses = 12396.62 kg/year

Baseline (Target) CO2 : House Type 531

Number of Units :	11
Total Floor Area :	91.6m ²
Base CO2 (TER) :	8.88 kg/m ² /year
Base CO2 (Total) :	813.41 kg/year x 11 houses = 8947.51 kg/year

Baseline (Target) CO2 : House Type 641

Number of Units :	2
Total Floor Area :	112.0m ²
Base CO2 (TER) :	9.38 kg/m ² /year
Base CO2 (Total) :	1050.56 kg/year x 2 houses = 2101.12 kg/year

Actual CO2 : House Type 211 (Ground Floor)

Number of Units :	8
Total Floor Area :	50.1m ²
CO2 (DER) :	3.54 kg/m ² /year
CO2 (Total) :	177.35 kg/year x 8 flats = 1418.80 kg/year

Actual CO2 : House Type 211 (First Floor)

Number of Units :	8
Total Floor Area :	60.2m ²
CO2 (DER) :	4.03 kg/m ² /year
CO2 (Total) :	242.61 kg/year x 8 flats = 1940.88 kg/year

Actual CO2 : House Type 421

Number of Units :	16
Total Floor Area :	81.3m ²
CO2 (DER) :	3.64 kg/m ² /year
CO2 (Total) :	295.93 kg/year x 16 houses = 4734.88 kg/year

Actual CO2 : House Type 531

Number of Units :	11
Total Floor Area :	91.6m ²
CO2 (DER) :	3.54 kg/m ² /year
CO2 (Total) :	324.26 kg/year x 11 houses = 3566.86 kg/year

Actual CO2 : House Type 641

Number of Units :	2
Total Floor Area :	112.0m ²
CO2 (DER) :	3.77 kg/m ² /year
CO2 (Total) :	422.24 kg/year x 2 houses = 844.48kg/year

Baseline (Target) Primary Energy : House Type 211 (Ground Floor)

Number of Units :	8
Total Floor Area :	50.1m ²
Base Energy (TPER) :	57.03 kWh/m ² /year
Base Energy (Total) :	2857.20 kWh/year x 8 flats = 22857.60 kWh/year

Baseline (Target) Primary Energy : House Type 211 (First Floor)

Number of Units :	8
Total Floor Area :	60.2m ²
Base Energy (TPER) :	55.27 kWh/m ² /year
Base Energy (Total) :	3327.25 kWh/year x 8 flats = 26618.00 kWh/year

Baseline (Target) Primary Energy : House Type 421

Number of Units :	16
Total Floor Area :	81.3m ²
Base Energy (TPER) :	49.54 kWh/m ² /year
Base Energy (Total) :	4027.60 kWh/year x 16 houses = 64441.60 kWh/year

Baseline (Target) Primary Energy : House Type 531

Number of Units :	11
Total Floor Area :	91.6m ²
Base Energy (TPER) :	46.08 kWh/m ² /year
Base Energy (Total) :	4220.93 kWh/year x 11 houses = 46430.23 kWh/year

Baseline (Target) Primary Energy : House Type 641

Number of Units :	2
Total Floor Area :	112.0m ²
Base Energy (TPER) :	48.77 kWh/m ² /year
Base Energy (Total) :	5462.24 kWh/year x 2 houses = 10924.48 kWh/year

Actual Primary Energy : House Type 211 (Ground Floor)

Number of Units :	8
Total Floor Area :	50.1m ²
Energy (TPER) :	42.59 kWh/m ² /year
Energy (Total) :	2133.76 kWh/year x 8 flats = 17070.08 kWh/year

Actual Primary Energy : House Type 211 (First Floor)

Number of Units :	8
Total Floor Area :	60.2m ²
Energy (TPER) :	46.29 kWh/m ² /year
Energy (Total) :	2786.66 kWh/year x 8 flats = 22293.28 kWh/year

Actual Primary Energy : House Type 421

Number of Units :	16
Total Floor Area :	81.3m ²
Energy (TPER) :	42.77 kWh/m ² /year
Energy (Total) :	3477.20 kWh/year x 16 houses = 55635.20 kWh/year

Actual Primary Energy : House Type 531

Number of Units :	11
Total Floor Area :	91.6m ²
Energy (TPER) :	41.08 kWh/m ² /year
Energy (Total) :	3762.93 kWh/year x 11 houses = 41392.23 kWh/year

Actual Primary Energy : House Type 641

Number of Units :	2
Total Floor Area :	112.0m ²
Energy (TPER) :	42.34 kWh/m ² /year
Energy (Total) :	4742.08 kWh/year x 2 houses = 9484.16 kWh/year

CO2 Saving

Base CO2 (Total) :	32896.48 kg/year
Actual CO2 (Total) :	12505.90 kg/year
Saving :	20390.58 kg/year
Saving (%) :	61.98%

Energy Saving

Base Energy (Total) :	171271.91 kWh/year
Actual Energy (Total) :	145874.95 kWh/year
Saving :	25396.96 kWh/year
Saving (%) :	14.83%

Note : The above are based on SAP10 (Approved Document L1 2021 Wales)

Heat Networks

There are no know heat networks in close proximatey to the site (existing or planned).

Design

Energy & CO₂ Emissions

- > Fabric insulation standards (including glazing) will exceed current (2021) Building Regulations Part L standards (effective June 2022).
- > Attention to be paid to minimise thermal bridging and air leakage at junctions.
- > 100% of new internal fixed lighting and external lighting will be low-energy (LED/CFL).
- > Air source heat pumps with advanced heating controls.
- > MVHR (high-performance) and/or natural ventilation.
- > Solar PV to all dwelling, with export capable meter.
- > Where supplied, white goods will be energy efficient.

Materials

- > Consideration will be given to using materials and construction that have a low environmental impact, such as those achieving an A+ or A rated under BRE's Green Guide.
- > Where possible, materials will be chosen that are responsibly sourced (such as FSC timber), recycled or reclaimed.
- > All insulation materials will have a GWP (Global Warming Potential) of 5 or less.

Water Use

- > Indoor water use will be restricted by use of fittings with lower flow rates, baths with smaller capacity, dual-flush WC, and (where applicable) washing machines and dishwashers with low water usage. Consideration to be given to installation of a water butts.

Surface Water & Flood Risk

- > Where possible, Sustainable Drainage Systems will be used to avoid, reduce, and delay the discharge of rain-fall run-off to public watercourses and sewers.
- > Measures are to be undertaken to reduce the risk of flooding where developments are in medium or high risk flood zones.

Waste

- > Construction site waste is to be minimised (diverted from landfill) by re-using materials on site (or to/from other sites), returning to the supplier where possible/practical, recovery/recycling, and composting.
- > Hazardous waste will be avoided (or minimised where unavoidable).
- > If available, the kitchen/utility design will incorporate fixed bin(s) in the cupboards to encourage recycling.

Health & Wellbeing

- > Key rooms have good levels of daylighting, and décor will enhance this. The need for artificial lighting will also be reduced.
- > Sound insulation (between dwelling and adjoining buildings, where applicable), and within the dwelling, will meet or exceed current Building Regulation standards.
- > To ensure the dwellings are usable/adaptable for all potential existing and future owners or occupiers, as many as possible/practical of the 16 no Lifetime Homes criteria will be incorporated into the design and construction of the dwellings.

Management

- > Guidance will be provided to the end owner/occupier of the dwellings, providing information on the correct and efficient use of their home.
- > Security measures will be incorporated into the design and construction of the dwellings.

Summary/Conclusion

The dwellings are to be designed to high levels of fabric insulation and air tightness, in line with current thinking (better than Part L 2021) to reduce energy use and CO2 emissions, with high efficiency air source heat pumps and solar pv panels added to significantly reduce carbon emissions and primary energy use beyond current standards.

Therefore the proposal meets Neath Port Talbot County Borough Council's requirements for Renewable and Low Carbon Energy (SPG July 2017).

I trust this is satisfactory. Should you have any queries, or would like to discuss anything, please do not hesitate to contact me.

Yours sincerely

Joe Solti (Project Director) joe@thermenergy.co.uk

Building Regulations Wales Part L (BRWL) Compliance Report

Approved Document L1 2021 Edition, Wales assessed by Array SAP 10 program, Array

Date: Thu 16 Jan 2025 14:47:17

Project Information			
Assessed By	Joe Solti	Building Type	Flat, Semi-detached
OCDEA Registration	EES/003578	Assessment Date	2025-01-16

Dwelling Details			
Assessment Type	As designed	Total Floor Area	50 m ²
Site Reference	CJ6701	Plot Reference	CJ6701
Address	Former Swelco Factory House Type 211 (GF) Heol Y Gors, Cwmgors, WALES		

Client Details	
Name	.
Company	Amity Planning Consultants
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	Electricity		
Target carbon dioxide emission rate	10.88 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.54 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	57.03 kWh _{PE} /m ²		
Dwelling primary energy	42.59 kWh _{PE} /m ²		OK
1c Minimum energy efficiency rating and dwelling energy efficiency rating			
Minimum energy efficiency rating	81		
Dwelling energy efficiency rating	87		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	0.21	0.16	Walls (1) (0.16)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.4	0	N/A	N/A
Floors	0.15	0.09	Ground Floor (0.09)	OK
Roofs	0.13	N/A	N/A	N/A
Windows, doors, and roof windows	1.4	1.4	Front Door (1.4)	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)	33.9	0.16	
Party wall: Party Wall (1)	26.8	0 (!)	
Ground floor: Ground Floor, Ground Floor	50.1	0.09 (!)	

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, Front Door	1.9	West	N/A	1.4
Windows (E), Windows	2.5	East	0.7	1.4
Windows (W), Windows	2.7	West	0.7	1.4

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	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.144	
External wall	E3: Sill	Calculated by person with suitable expertise	0.048	
External wall	E4: Jamb	Calculated by person with suitable expertise	0.064	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.051	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.062	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.087	

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	5 m ³ /hm ² , Design value	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Electricity

Efficiency	219.3%
Emitter type	Both radiators and underfloor
Flow temperature	
System type	Air source heat pump
Manufacturer	
Model	
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	180 litres
Declared heat loss	2 kWh/day
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: Cylinder thermostat and HW separately timed

Manufacturer	
Model	

7 Lighting

Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	75 lm/W	OK
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	1.2 kWp
Orientation	West
Pitch	45°
Overshading	None or very little
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 BRWL 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 BRWL Compliance Report.	
Signed: Name:	Assessor ID: Date:
b. Client Declaration	
N/A	

Building Regulations Wales Part L (BRWL) Compliance Report

Approved Document L1 2021 Edition, Wales assessed by Array SAP 10 program, Array

Date: Thu 16 Jan 2025 14:47:52

Project Information			
Assessed By	Joe Solti	Building Type	Flat, Semi-detached
OCDEA Registration	EES/003578	Assessment Date	2025-01-16

Dwelling Details			
Assessment Type	As designed	Total Floor Area	60 m ²
Site Reference	CJ6702	Plot Reference	CJ6702
Address	Former Swelco Factory House Type 211 (FF) Heol Y Gors, Cwmgors, WALES		

Client Details	
Name	.
Company	Amity Planning Consultants
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	Electricity		
Target carbon dioxide emission rate	10.57 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	4.03 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	55.27 kWh _{PE} /m ²		
Dwelling primary energy	46.29 kWh _{PE} /m ²		OK
1c Minimum energy efficiency rating and dwelling energy efficiency rating			
Minimum energy efficiency rating	81		
Dwelling energy efficiency rating	84		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	0.21	0.16	Walls (1) (0.16)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.4	0	N/A	N/A
Floors	0.15	0.09	Ground Floor (0.09)	OK
Roofs	0.13	0.1	Roof (1) (0.1)	OK
Windows, doors, and roof windows	1.4	1.4	Front Door (1.4)	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)	64.2	0.16	
Party wall: Party Wall (1)	28.5	0 (!)	
Ground floor: Ground Floor, Ground Floor	5.6	0.09 (!)	
Exposed roof: Roof (1)	58.3	0.1 (!)	

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, Front Door	1.9	South	N/A	1.4
Windows (E), Windows	2.5	East	0.7	1.4
Windows (W), Windows	2.8	West	0.7	1.4
Windows (N), Windows	0.7	North	0.7	1.4

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	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.144	
External wall	E3: Sill	Calculated by person with suitable expertise	0.048	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.064	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.051	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.062	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.087	
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.082	
External wall	E12: Gable (insulation at ceiling level)	SAP table default	0.25	

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	5 m ³ /hm ² , Design value	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Electricity		
Efficiency	219.3%	
Emitter type	Both radiators and underfloor	
Flow temperature		
System type	Air source heat pump	
Manufacturer		
Model		
Commissioning		
Secondary heating system: N/A		
Fuel	N/A	
Efficiency	N/A	
Commissioning		

5 Hot water

Cylinder/store - type: N/A		
Capacity	180 litres	
Declared heat loss	2 kWh/day	
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: Cylinder thermostat and HW separately timed		
Manufacturer		
Model		

7 Lighting

Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	75 lm/W	OK
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	1.2 kWp	
Orientation	West	
Pitch	45°	
Overshading	None or very little	
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 BRWL 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 BRWL Compliance Report.		
Signed:	Assessor ID:	
Name:	Date:	
b. Client Declaration		
N/A		

Building Regulations Wales Part L (BRWL) Compliance Report

Approved Document L1 2021 Edition, Wales assessed by Array SAP 10 program, Array

Date: Thu 16 Jan 2025 14:48:19

Project Information			
Assessed By	Joe Solti	Building Type	House, Semi-detached
OCDEA Registration	EES/003578	Assessment Date	2025-01-16

Dwelling Details			
Assessment Type	As designed	Total Floor Area	81 m ²
Site Reference	CJ6703	Plot Reference	CJ6703
Address	Former Swelco Factory House Type 421 Heol Y Gors, Cwmgors, WALES		

Client Details	
Name	.
Company	Amity Planning Consultants
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	Electricity		
Target carbon dioxide emission rate	9.53 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.64 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	49.54 kWh _{PE} /m ²		
Dwelling primary energy	42.77 kWh _{PE} /m ²		OK
1c Minimum energy efficiency rating and dwelling energy efficiency rating			
Minimum energy efficiency rating	81		
Dwelling energy efficiency rating	84		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	0.18	0.16	Walls (1) (0.16)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.4	0	N/A	N/A
Floors	0.15	0.09	Ground Floor (0.09)	OK
Roofs	0.13	0.1	Roof (1) (0.1)	OK
Windows, doors, and roof windows	1.4	1.4	Front Door (1.4)	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)	77.65	0.16	
Party wall: Party Wall (1)	45.9	0 (!)	
Ground floor: Ground Floor, Ground Floor	40.65	0.09 (!)	
Exposed roof: Roof (1)	40.65	0.1 (!)	

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, Front Door	1.9	West	N/A	1.4
Windows (E), Windows	5.85	East	0.7	1.4
Windows (W), Windows	4.1	West	0.7	1.4
Windows (N), Windows	0.7	North	0.7	1.4

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	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.144	
External wall	E3: Sill	Calculated by person with suitable expertise	0.048	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.064	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.051	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.062	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.087	
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.082	
External wall	E12: Gable (insulation at ceiling level)	SAP table default	0.25	
Party wall	P1: Ground floor	SAP table default	0.32	
Party wall	P4: Roof (insulation at ceiling level)	SAP table default	0.48	
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.13	

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	5 m ³ /hm ² , Design value	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Electricity

Efficiency	219.3%
Emitter type	Both radiators and underfloor
Flow temperature	
System type	Air source heat pump
Manufacturer	
Model	
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	180 litres
Declared heat loss	2 kWh/day
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: Cylinder thermostat and HW separately timed

Manufacturer	
Model	

7 Lighting

Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	75 lm/W	OK
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	1.8 kWp	
Orientation	West	
Pitch	45°	
Overshading	None or very little	
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 BRWL 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 BRWL Compliance Report.		
Signed:	Assessor ID:	
Name:	Date:	
b. Client Declaration		
N/A		

Building Regulations Wales Part L (BRWL) Compliance Report

Approved Document L1 2021 Edition, Wales assessed by Array SAP 10 program, Array

Date: Thu 16 Jan 2025 14:48:43

Project Information			
Assessed By	Joe Solti	Building Type	House, Semi-detached
OCDEA Registration	EES/003578	Assessment Date	2025-01-16

Dwelling Details			
Assessment Type	As designed	Total Floor Area	92 m ²
Site Reference	CJ6704	Plot Reference	CJ6704
Address	Former Swelco Factory House Type 531 Heol Y Gors, Cwmgors, WALES		

Client Details	
Name	.
Company	Amity Planning Consultants
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	Electricity		
Target carbon dioxide emission rate	8.88 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.54 kgCO ₂ /m ²		OK
1b Target primary energy rate and dwelling primary energy			
Target primary energy	46.08 kWh _{PE} /m ²		
Dwelling primary energy	41.08 kWh _{PE} /m ²		OK
1c Minimum energy efficiency rating and dwelling energy efficiency rating			
Minimum energy efficiency rating	81		
Dwelling energy efficiency rating	84		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	0.18	0.16	Walls (1) (0.16)	OK
Party walls	0.2	0	Party Wall (1) (0)	N/A
Curtain walls	1.4	0	N/A	N/A
Floors	0.15	0.09	Ground Floor (0.09)	OK
Roofs	0.13	0.1	Roof (1) (0.1)	OK
Windows, doors, and roof windows	1.4	1.4	Front Door (1.4)	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)	82.6	0.16	
Party wall: Party Wall (1)	45.9	0 (!)	
Ground floor: Ground Floor, Ground Floor	45.8	0.09 (!)	
Exposed roof: Roof (1)	45.8	0.1 (!)	

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, Front Door	1.9	West	N/A	1.4
Windows (E), Windows	6.5	East	0.7	1.4
Windows (W), Windows	4.8	West	0.7	1.4

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	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.144	
External wall	E3: Sill	Calculated by person with suitable expertise	0.048	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.064	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.051	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.062	
External wall	E18: Party wall between dwellings	Calculated by person with suitable expertise	0.087	
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.082	
External wall	E12: Gable (insulation at ceiling level)	SAP table default	0.25	
Party wall	P1: Ground floor	SAP table default	0.32	
Party wall	P4: Roof (insulation at ceiling level)	SAP table default	0.48	
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.13	

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	5 m ³ /hm ² , Design value	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Electricity

Efficiency	219.3%
Emitter type	Both radiators and underfloor
Flow temperature	
System type	Air source heat pump
Manufacturer	
Model	
Commissioning	

Secondary heating system: N/A

Fuel	N/A
Efficiency	N/A
Commissioning	

5 Hot water

Cylinder/store - type: N/A

Capacity	180 litres
Declared heat loss	2 kWh/day
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: Cylinder thermostat and HW separately timed

Manufacturer	
Model	

7 Lighting

Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	75 lm/W	OK
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	1.8 kWp	
Orientation	West	
Pitch	45°	
Overshading	None or very little	
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 BRWL 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 BRWL Compliance Report.		
Signed:	Assessor ID:	
Name:	Date:	
b. Client Declaration		
N/A		

Building Regulations Wales Part L (BRWL) Compliance Report

Approved Document L1 2021 Edition, Wales assessed by Array SAP 10 program, Array

Date: Thu 16 Jan 2025 14:49:07

Project Information			
Assessed By	Joe Solti	Building Type	House, Detached
OCDEA Registration	EES/003578	Assessment Date	2025-01-16

Dwelling Details			
Assessment Type	As designed	Total Floor Area	112 m ²
Site Reference	CJ6705	Plot Reference	CJ6705
Address	Former Swelco Factory House Type 641 Heol Y Gors, Cwmgors, WALES		

Client Details	
Name	.
Company	Amity Planning Consultants
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	Electricity	
Target carbon dioxide emission rate	9.38 kgCO ₂ /m ²	
Dwelling carbon dioxide emission rate	3.77 kgCO ₂ /m ²	OK

1b Target primary energy rate and dwelling primary energy		
Target primary energy	48.77 kWh _{PE} /m ²	
Dwelling primary energy	42.34 kWh _{PE} /m ²	OK

1c Minimum energy efficiency rating and dwelling energy efficiency rating		
Minimum energy efficiency rating	81	
Dwelling energy efficiency rating	82	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	0.18	0.16	Walls (1) (0.16)	OK
Party walls	0.2	N/A	N/A	N/A
Curtain walls	1.4	N/A	N/A	N/A
Floors	0.15	0.1	Exposed Floor (0.18)	OK
Roofs	0.13	0.1	Roof (1) (0.1)	OK
Windows, doors, and roof windows	1.4	1.4	Front Door (1.4)	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)	131.6	0.16	
Ground floor: Ground Floor, Ground Floor	54.26	0.09 (!)	
Party floor: Exposed Floor, Exposed Floor	3.4	0.18	
Exposed roof: Roof (1)	57.7	0.1 (!)	

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, Front Door	4.3	East	N/A	1.4
Windows (E), Windows	8.8	West	0.7	1.4
Windows (N), Windows	5.1	North	0.7	1.4
Windows (S), Windows	7.3	South	0.7	1.4

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	E2: Other lintels (including other steel lintels)	Calculated by person with suitable expertise	0.144	
External wall	E3: Sill	Calculated by person with suitable expertise	0.048	

Main element	Junction detail	Source	Psi value [W/mK]	Drawing / reference
External wall	E4: Jamb	Calculated by person with suitable expertise	0.064	
External wall	E5: Ground floor (normal)	Calculated by person with suitable expertise	0.051	
External wall	E16: Corner (normal)	Calculated by person with suitable expertise	0.062	
External wall	E10: Eaves (insulation at ceiling level)	Calculated by person with suitable expertise	0.082	
External wall	E12: Gable (insulation at ceiling level)	SAP table default	0.25	
External wall	E6: Intermediate floor within a dwelling	Calculated by person with suitable expertise	0.13	
External wall	E20: Exposed floor (normal)	SAP table default	0.32	

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	5 m ³ /hm ² , Design value	OK
Air permeability test certificate reference		

4 Space heating

Main heating system 1: Heat pump with radiators or underfloor heating - Electricity		
Efficiency	219.3%	
Emitter type	Both radiators and underfloor	
Flow temperature		
System type	Air source heat pump	
Manufacturer		
Model		
Commissioning		
Secondary heating system: N/A		
Fuel	N/A	
Efficiency	N/A	
Commissioning		

5 Hot water

Cylinder/store - type: N/A		
Capacity	210 litres	
Declared heat loss	2 kWh/day	
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: Cylinder thermostat and HW separately timed		
Manufacturer		
Model		

7 Lighting

Minimum permitted light source efficacy	75 lm/W	
Lowest light source efficacy	75 lm/W	OK
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	1.8 kWp	
Orientation	West	
Pitch	45°	
Overshading	None or very little	
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 BRWL 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 BRWL Compliance Report.		
Signed:	Assessor ID:	
Name:	Date:	
b. Client Declaration		
N/A		