

SAP Analysis: 4179 – Cimla Road, Neath			Elmhurst SAP 10
As-Designed			Version 2.20.7 ERC v1.7.50
	Base Specification	Pathway to 92 A	Notes
SAP Input Data			
1.0 Orientation	Northeast	Northeast	
2.0 U-Values			
Walls: External Front	2.10 W/m²K	2.10 W/m²K	Value from SAP Defaults for Band B property.
Walls: External Rear	0.30 W/m²K	0.30 W/m²K	Existing upgraded with EWI system.
Walls: Into Unheated Loft	0.30 W/m²K	0.30 W/m²K	Existing upgraded with EWI system.
Floors: Ground Solid	0.40 W/m²K	0.40 W/m²K	Existing solid ground floor construction – assumed 100mm concrete on ground for U-Value in SAP calculation.
Roof: Plane	0.11 W/m²K	0.11 W/m²K	Insulation between and over ceiling joists.
Roof: Slope	0.16 W/m²K	0.16 W/m²K	Existing rafters to be insulated between and under to achieve target U-Value. Insulated from plane roof down to external walls.
Front Door (Solid)	1.30 W/m²K Solid Door	1.30 W/m²K Solid Door	
Glazed / Sliding Door	1.30 W/m²K Double Glazed Low-E Soft 0.05	1.30 W/m²K Double Glazed Low-E Soft 0.05	
Windows	1.30 W/m²K Double Glazed Low-E Soft 0.05	1.30 W/m²K Double Glazed Low-E Soft 0.05	
Rooflights	1.40 W/m²K Double Glazed Low-E Soft 0.05	1.40 W/m²K Double Glazed Low-E Soft 0.05	
3.0 Thermal Bridging	Thermal bridges not entered, Default value of 0.200 applied to calculation.	Thermal bridges not entered, Default value of 0.200 applied to calculation.	
4.0 Electricity Tariff	Standard Tariff with Smart Meter	Standard Tariff with Smart Meter	
5.0 Air Pressure Target	≤ 5.00 (Designed q50)	≤ 5.00 (Designed q50)	
6.0 Ventilation System			
Mechanical Ventilation	dMEV - Nuaire iSense Plus	dMEV - Nuaire iSense Plus	1no. fan to kitchen and each shower room.
Fans, Fireplaces, Flues	-	-	
7.0 Lighting	LED throughout	LED throughout	
8.0 Space Heating			
Space Heating Source	Vaillant aroTHERM 12kW Air Source Heat Pump with heat pump interface & radiators. Flow temperature of 45°C.	Vaillant aroTHERM 12kW Air Source Heat Pump with heat pump interface & radiators. Flow temperature of 45°C.	Heat pump size (kW) to be confirmed by M&E Consultant and / or supplier.
Controls	Time & Temperature Zone Control SAP Code 2207	Time & Temperature Zone Control SAP Code 2207	
9.0 Water Heating			
Water Heating Source	500 litre Mixergy X hot water cylinder with Mixergy Heat Pump Kit. Measured Loss: 2.81 kwh/day (SAP Appendix Q) Heat Transfer Area: 3m²	500 litre Mixergy X hot water cylinder with Mixergy Heat Pump Kit. Measured Loss: 2.81 kwh/day (SAP Appendix Q) Heat Transfer Area: 3m²	Cylinder size to be confirmed by M&E Consultant and / or supplier.
Showers	SAP Entry: Unvented Hot Water System	SAP Entry: Unvented Hot Water System	
10.0 New Technology			
Photovoltaic Unit	Southwest Slope: 3.36 kW Peak (8 Panels)	Southwest Slope: 3.36 kW Peak (8 Panels) Northwest Slope: 7.98 kW Peak (19 Panels)	Figures based on 420W PV panels. SAP settings: None or Little overshadowing and at 45° pitch.
Battery Storage	-	10 kWh	
SAP Output Information			
SAP Rating	78 C	92 A	
EI Rating	96 A	98 A	Environmental Impact Rating
CO ₂ Emissions	0.86 t/yr	0.28 t/yr	Tonnes per Year
DER	3.94 kgCO ₂ /yr/m²	1.57 kgCO ₂ /yr/m²	Dwelling (CO ₂) Emission Rate
DPER	44.42 kWh/m²/yr	19.23 kWh/m²/yr	Dwelling Primary Energy Rate