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ADL: V1 Conversion – As-Designed
SAP 2021

20th November 2026

Mr Ian Sullivan
Ian Sullivan Architecture
101 Victoria Road
Swindon
SN1 3BD

Ref: SAP0698 – Flat 1 - 13-15 Station Road, Reading, RG1 1LG

I am pleased to enclose your SAP rating Calculations in accordance with Approved Document L1B regulations.

Construction	Specifications	Actual	Notional	
Wall	**Existing Cavity Walls:** 103mm external brickwork (0.77 W/m.K) 50mm Clear Cavity 100mm Dense blockwork (1.590 W/m.K) 25mm Timber Batten Cavity 40mm H-control Actis Hybris with Core R-Value of 1.90 12.5mm Plasterboard	0.37 W/m^{2}K	0.55 W/m^{2}K	✓
Roofs	**Other Dwelling Above**			
Floors	**Commercial Premise Below:** 200mm Mineral Wool insulation (0.044 W/m.K) between joist @ 600mm Ctrs 200mm acoustic void and 12.5mm Plasterboard	0.11 W/m^{2}K	0.25 W/m^{2}K	✓
Windows & Doors	Windows & Doors:	1.20 W/m^{2}K	1.40 W/m^{2}K	✓
Ventilation	Intermittent fans	Same	Same	
Air Pressure Test:	Air Pressure Test to achieve a minimum permeability of 5.0 m^3/(h.m^2) @ 50 Pa	4.80	15.0	✓
Lighting	All lighting to be LEDs with an efficacy of 100 lm/W	100 lm/W	75 lm/W	✓

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Heating System's	High Heat Retention Storage Heaters	Same	Same	
Heating Controls	Controls for High Heat Retention Storage Heaters	Same	Same	
Water Heating	**Dual Immersion:** 150L Cylinder with declared losses of 1.88 kWh/24hrs Fully Insulated Pipework with Independent Time Control & Cylinder Stat in Heated Space	Same	Same	
Renewables	N/A			

Calculations have been based on the information provided by the client.

In order that compliance is achieved the Actual dwelling must not be greater than that of the notional dwelling:

Dwelling Emission Rate (DER):	Actual Dwelling:	Notional Dwelling:	Overall Compliance
	12.22	16.20	✓

Dwelling Fabric Energy Efficiency (DFEE):	Actual Dwelling:	Notional Dwelling:	Overall Compliance
	60.61	87.84	✓

Dwelling Primary Energy Rate (DPER):	Actual Dwelling:	Notional Dwelling:	Overall Compliance
	135.00	178.39	✓

The tables above show that the Extension has reach overall compliance with ADL V1 Conservation of fuel and power.

The SAP assessment demonstrates that the proposed dwelling achieves a Dwelling Emission Rate (DER) of **12.22 kgCO_2/m²/year**, compared with a Target Emission Rate (TER) of **16.20 kgCO_2/m²/year**. This represents a **24.57% reduction in carbon emissions** relative to the notional dwelling. The proposed development therefore significantly exceeds the minimum requirements of Part L of the Building Regulations and comes very close to the Council's target of a 25% improvement over the TER, falling short by only **0.56%**.