



<b>CLIENT:</b>	Churchill Retirement PLC
<b>PROJECT:</b>	Calmore Unit 5
<b>SOFTWARE VERSION:</b>	2023.4.0.0
<b>SITE LOCATION:</b>	Calmore Farm, Southampton
<b>WEATHER FILE:</b>	Southampton
<b>DATE:</b>	21 February 2024
<b>STAGE:</b>	As Designed
<b>REVISION:</b>	A

**BUILDING REGULATIONS PART L 2021**

<b>Target Emission Rate (TER)</b>	kgCO <sub>2</sub> /m <sup>2</sup>	<b>1.71</b>
<b>Building Emission Rate (BER)</b>	kgCO <sub>2</sub> /m <sup>2</sup>	<b>1.70</b>
<b>Compliance</b>	<b>PASS</b>	<b>0.58%</b>

<b>Target Primary Emission Rate (TPER)</b>	kWh/m <sup>2</sup>	<b>17.97</b>
<b>Building Primary Emission Rate (BPER)</b>	kWh/m <sup>2</sup>	<b>17.57</b>
<b>Compliance</b>	<b>PASS</b>	<b>2.23%</b>

EXTERNAL ELEMENT	U VALUE (W/m <sup>2</sup> K)	G VALUE (glass only)	G VALUE (BFRC)	Notes
Rooflight	1.50	0.65	0.46	Assumed from Part L
External Glazing	1.40	0.64	0.46	Assumed from Part L
EXTERNAL ELEMENT	U VALUE (W/m <sup>2</sup> K)	THERMAL MASS (KJ/m <sup>2</sup> K)		Notes
External Wall (metal cladding)	0.20	17.50		Assumed from Part L
Roof	0.16	8.75		Assumed from Part L
Ground Floor	0.16	98.98		Assumed from Part L
Vehicle Access Door	1.30	2.11		Assumed from Part L
External Personnel Door	1.50	2.11		Assumed from Part L
INTERNAL ELEMENT	U VALUE (W/m <sup>2</sup> K)	THERMAL MASS (KJ/m <sup>2</sup> K)		Notes
Insulated Internal Partition	0.28	19.98		Assumed from Part L
Lightweight Internal Partition	1.79	8.75		Assumed from Part L
Insulated Ceiling	0.18	19.98		Assumed from Part L
Not Insulated Ceiling	1.47	8.75		Assumed from Part L

Thermal Bridge	Junction not involving metal cladding	QA accredited	Junction involving metal cladding	QA accredited
Type of junction	Psi (W/(m·K))		Psi (W/(m·K))	
Roof - wall	n/a		0.420	
wall - ground floor	n/a		1.730	
wall - wall (corner)	n/a		0.380	
wall - floor (not ground)	n/a		0.040	
lintel above window/door	n/a		1.910	
sill below window	n/a		1.910	
jamb at window/door	n/a		1.910	

<b>Air Permeability</b>	<b>m<sup>3</sup>/(h.m<sup>2</sup>) @ 50pa</b>	<b>4.00</b>
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**BUILDING SERVICES GENERAL**

Electric Power factor	<0.9
Lighting metering & 'Out of Range' Warning	Yes
Internal Blinds Required	n/a

**BUILDING SERVICES - MAIN SYSTEM 1**

Heating - Communal	Specification	Notes
Areas Serviced by System	Boardroom & both Open Offices	
Type	Split or multi-split system	Cassette Unit
Fuel Source	Electricity	
Seasonal Efficiency (heating)	4.00	
Seasonal Efficiency (cooling)	5.50	
CHP Generators	No	
ECA Qualification	n/a	

System Adjustment	Specification	Notes
Has the ductwork been leakage tested?	No	
Does the AHU meet CEN leakage Standards	No	
Specific Fan power	n/a	
Pump Type	n/a	
Does the System have provision for metering?	Yes	
Does the metering warn "out of range" values	Yes	

System Controls	Specification	Notes
Central Time Control	Yes	
Optimum Start Stop Control	No	
Local Time Control (room)	Yes	
Local Temperature Control (room)	Yes	
Weather Compensation Control	No	

**BUILDING SERVICES - MAIN SYSTEM 2**

Heating - Communal	Specification	Notes
Areas Serviced by System	All Remaining Areas	Warehouse is unheated.
Type	Other Local room heater - unfanned.	Panel Heaters
Fuel Source	Electricity	
Seasonal Efficiency (heating)	1.00	
CHP Generators	No	
ECA Qualification	n/a	

System Adjustment	Specification	Notes
Has the ductwork been leakage tested?	No	
Does the AHU meet CEN leakage Standards	No	
Specific Fan power	n/a	
Pump Type	n/a	
Does the System have provision for metering?	Yes	
Does the metering warn "out of range" values	No	

System Controls	Specification	Notes
Central Time Control	Yes	
Optimum Start Stop Control	No	
Local Time Control (room)	Yes	
Local Temperature Control (room)	Yes	
Weather Compensation Control	No	

#### BUILDING SERVICES - DOMESTIC HOT WATER SYSTEM 1

Items	Specification	Notes
Type	Instantaneous hot water only	
Fuel Source	Electricity	
Seasonal Efficiency	100%	
Hot Water Storage	No	
Total Storage Volume	L	
Storage Losses	n/a	
Does the system have secondary circulation?	No	

#### BUILDING SERVICES - VENTILATION

Room	Fan Type	SFP (W/l/s)	Flow Rate (l/s)	Notes
WC GF - FF	Extract	0.40	8.00	Assumed
Disabled WC FF	Extract	0.40	8.00	Assumed

#### BUILDING SERVICES - LIGHTING AND CONTROLS

Room	Lumens/Circuit watt	Light Output Ratio	Controls	Parasitic Power (W/m2)
Boardroom FF	110.00	1.00	NONE (Foc = 1.0)	n/a
WC GF - FF	110.00	1.00	AUTO-ON-OFF (Foc = 0.90)	0.05
Disabled WC FF	110.00	1.00	AUTO-ON-OFF (Foc = 0.90)	0.05
Warehouse GF	120.00	1.00	Photoelectric Sensors	0.05
Store GF - FF	110.00	1.00	NONE (Foc = 1.0)	n/a
Office GF/Open Office GF - FF	110.00	1.00	NONE (Foc = 1.0)	n/a
Lobby GF	110.00	1.00	AUTO-ON-OFF (Foc = 0.90)	0.05
Stair GF - FF	110.00	1.00	NONE (Foc = 1.0)	n/a
Stair/Circulation FF	110.00	1.00	NONE (Foc = 1.0)	n/a

Items	Specification	Notes
Orientation	South	
Peak Power output (kWp)	40	
Energy generated by PV (kWh/year)	33,887.65	
Inclination	15	
Overshading Risk	None or very little (<20%)	

#### Note

SBEM is not a design tool, it only lists the expected performance of MEP services. They are not a confirmation that they will meet requirements of compliance and should not be relied upon for the purposes of design.

It is for the Design Team to confirm the suitability of the above system(s) to achieve DHW demand, Space Heating, Heat load requirements and minimum ventilation requirements.