



Appendix IC – Design Specification

For Dwellings under Part L1A 2021

Energy Evaluation Ref: Z60104.1

British Legion, Manchester - 14 Dwellings

Thermal Performance and M&E Data

Item	Brief Description	Notes	Confirm
	The following information is required for the design submission (as per requirements of approved doc L1A).	Please note submission is now in two stages. A) Design , B) As installed	
1. Dwelling Parameters			
1.1	New Building Regulations 2021 applies	The Contractor is responsible for meeting Building Regs 2021 compliance including part L (energy), F (ventilation), O (overheating), G (water consumption), E (sound) and S (Elec Vehicle Charging)	
1.2	Full address and Post code of site to be provided from Royal Mail	M22 9TF	
1.3	Electricity is supplied by standard tariff rather than economy 7, 10 or 24.	Assumed Standard tariff	
1.4	It is assumed that the dwellings have a medium thermal mass parameter.	Masonry Construction	
1.5	Client requires EPC A rated apartments		
2. Floor Construction Details			
2.1	Ground floor is to achieve the U-value stated opp. Allow screed and 150mm PIR over block and beam floor	U-Value = 0.11-0.12 W/m ² K P/A ratio dependent per flat	
2.2	Exposed floor over plant room to be insulated to achieve the U-value opp. 300mm rockslab soffit board or equivalent to the soffit	U-Value = 0.14 W/m ² K	
3. Wall Construction Details			
3.1	Main external walls to be 102.5mm brick outerleaf, 150mm cavity fully filled with Dritherm 32 or Superwall 32 or equivalent full fill insulation, 100mm medium density blockwork with plasterboard on dabs to achieve the U-value stated opp.	U-Value = 0.18 W/m ² K Plasmor Stranlite or equivalent As EC calc	
3.2	Party walls between dwellings are fully filled and sealed to achieve the U-value opp.	U-Value = 0.0 W/m ² K Plasmor Stranlite or equivalent	
3.3	Corridors and stairwells are unheated. Walls to unheated corridor are 100mm fully filled with dritherm 32 or superwall 32 or equivalent to achieve the U-value opp.	U-Value = 0.22 W/m ² K with shelter factor applied. As EC calc	
3.4	Walls between apt 2 and unheated plantroom are 100mm fully filled with dritherm 32 or superwall 32 or equivalent to achieve the U-value opp.	U-Value = 0.25 W/m ² K shelter factor applied will meet U=0.23 As EC calc	
4. Roof Construction Details			
4.1	Cold conventional roof to be insulated with 500mm of mineral wool to achieve the U-value stated opp.	U-Value = 0.09 W/m ² K	
4.2	Non-Dwelling Areas - Flat roof present to the unheated corridor areas. These areas should meet the U value opposite	ADL2A limiting (max) U-Value = 0.18 W/m ² K	
4.3	Dwelling Areas - Flat roof present over part of flat areas. These areas should meet the U value opposite	To meet ADL1A notional U-Value = 0.13W/m ² K	
4.4	Dwelling Areas - Sloping roof may be present over part of flat at eaves before it meets the cold roof construction. These areas should meet the U value opposite	To meet ADL1A notional U-Value = 0.13W/m ² K	
5. Openings			
5.1	All BFRC Certified double-glazed windows and patio type doors/windows with Low-e glass hard coating to achieve the U-Value stated opp.	Uw-Value = 1.3 W/m ² K frame and glazing G value 0.4 *BFRC Certified	
5.2	Doors to the flats / cold corridors are installed to achieve the U-value stated opposite.	U-Value = 1.4 W/m ² K This is a standard value based on a fire rated solid timber door with shelter factor applied.	
5.3	Entrance doors to the block of flats (not to the flats themselves) are installed to achieve the U-value stated opposite.	ADL2A limiting (max) U-Value = 1.6 W/m ² K	
6. Ventilation			
6.1	Design stage SAP calculation presumes an air permeability of 4m3/m2/hr at 50pa will be achieved.	Every dwelling tested and certificated to ≤4m3/m2/hr @50Pa	
6.2	MVHR is installed in all wet areas incl. bathrooms, ensuites and kitchens	Vent Axia Sentinel Kinetic Plus B (Roots confirmed) Every dwelling part F tested and certificated	
7. Space Heating			
7.1	There is only one main heating system installed.	No secondary heating.	
7.2	Heating to each apartment is provided by individual direct electric panel heaters with appliance stat and programmer		



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7.3	Communal circulation areas are unheated.		
8. Water Heating			
8.1	Showers – All showers will be supplied from the Hot Water cylinder via a pump.	All showers to be flow regulated to <9litres/minute.	
8.2	Water usage per person per day is ≤105 Litres.	To exceed Part G to reduce HW usage which is good practice with a Heat pump. Requires good specification of flow rates on all water consuming appliances – taps, showers, etc	
8.3	Water heating to be supplied by Hot Water Heat Pump as opposite. Typically, 160mm intake and exhaust ducts to external facade	Vaillant Arostor 200l units	
9. Renewables			
9.1	PV is included. Allowance of 29.48kWp PV shared between the flats on a Solshare system so each apartment benefits from the PV generated electricity. Each flat to have export capable meters installed. Each PV panel to be 440W.	440W PV panels assumed. Total panels = 67 Apt 01 – 7 panels Apt 02 – 9 panels Apt 03 – 5 panels Apt 04 – 5 panels Apt 05 – 4 panels Apt 06 – 3 panels Apt 07 – 3 panels Apt 08 – 4 panels Apt 09 – 4 panels Apt 10 – 6 panels Apt 11 – 4 panels Apt 12 – 5 panels Apt 13 – 4 panels Apt 14 – 4 panels	
10. Other			
10.1	Masonry elements to use recognized construction details (RCD) for thermal bridging junctions where applicable: E2, E3, E4, E5, E7, E10, E12, E16, E17 E18, E20, E21 and P1, P4 and P8 (P3 is zero).	We have used Recognised Construction Details for all psi values as listed in table below	
10.2	Split/isolated lintels will be installed to achieve improved thermal bridging as E2	Psi value of 0.023W/mK. Split Rowcon confirmed	
10.4	Low energy (LE) lights are installed throughout.	All apartment and communal lighting to meet an min efficacy of 90 lumens/circuit watt. The Contractor will provide a drawing and schedule of all proposed light fittings with efficacies detailed.	
10.5	All dwellings will require further analysis to comply with part O	Part O overheating assessment has been completed showing full compliance	
10.6	Provide all design and as built evidential requirements to meet building regulations compliance standards. Refer to EC guide on photographic evidence as attached.	The evidence must be submitted to the OCDEA and Building Control at least 3 weeks before handover for their review and sign off	



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	Recognised Construction Details (RCDs)	SAP 2021 Reference	Ψ Value (W/mK) and Detail Reference		
	Thermal Bridging Construction details Masonry Cavity Fill Construction				
	Junction		Default Psi Value (if applicable)	Enhanced Detail (if applicable)	RCD's (Calculated)
Junctions with an external wall	Steel Lintel with perforated base plate	E1	1.00	0.01	
	Independent Lintels	E2	1.00	0.01	0.015 (split)
	Sill	E3	0.10		0.021
	Jamb	E4	0.10		0.016
	Ground Floor	E5	0.32	0.074	0.112
	Intermediate Floor within a dwelling	E6	0.14		
	Party Floor between Dwellings	E7	0.28		0.037
	Balcony within dwelling (cont ins)	E8	0.10		
	Balcony between dwellings (cont ins)	E9	0.15		
	Eaves (insulation at ceiling level)	E10	0.12		0.065
	Eaves (insulation at rafter Level)	E11	0.15		
	Gable (insulation at ceiling level)	E12	0.25	0.057	0.097
	Gable (insulation at rafter level)	E13	0.25		
	Flat roof with parapet	E14	0.16		
	Flat roof with parapet	E15	0.30		
	Corner (Normal)	E16	0.18		0.051
	Inverted corner	E17	0.00		-0.091
	Party Wall between Dwellings	E18	0.24		0.034
	Ground floor (inverted)	E19	0.10		
	Exposed Upper Floor	E20	0.32		0.116
	Exposed Upper Floor (Inverted)	E21	0.32		
	Basement Floor	E22	0.22		
	Balcony between/within dwelling	E23	1.00		
	Eaves (ins at ceiling level - Inverted)	E24	0.15		
	Staggered Party wall	E25	0.24		0.030
Junctions with a Party Wall	Ground Floor	P1	0.32		0.108
	Intermediate floor within a dwelling	P2	0.00		
	Intermediate floor	P3	0.00		
	Roof insulation at ceiling level	P4	0.48		0.162
	Roof insulation at rafter level	P5	0.48		
	Ground Floor (inverted)	P6	0.32		
	Exposed Floor (normal)	P7	0.48		
	Exposed floor (inverted)	P8	0.48		