

Design Stage SAP Build Standards

Client: Lawray Architects

Site: Plas Penrhos

Proposals: New build development of 39 flats over three storeys with part common space below

Building regulations: Part L1a 2014, Wales

Client aspirations: EPC - 92 A Rating

Prepared by	Checked by	Date	Project No.	Revision	SAP Version
Chris Tolman	Peter Kinsella	25.03.2021	8119	1.0	V0

Changes to specification

Fabric Standards

	Limiting Values	Notional Dwelling	Proposed Dwellings
Walls	0.21	0.18	0.12
Party wall	0.20	0.0	0.0
Floors	0.18	0.13	0.13
Roof	0.15	0.13	0.12
Windows	1.6	1.4	1.4
Air test	10	5	3
Ventilation	Natural	Natural	MVHR
Thermal Bridging	NA	0.04	0.08 (ACD)

Build Standards

Construction notes

Floors

Ground floor (u-value 0.13 W/m²k) – insulation to be confirmed, concrete slab

Intermediate floors – Metal deck with concrete slab composite

Walls

External wall Brick (u-value 0.12 W/m²k) – Outer 102.5mm brick, 50mm air space, 120mm Kingspan K15 insulation (0.02W/mk), 12mm cement board, 100mm mineral wool (0.038W/mk) between steel frame, 0.3mm VCL, 2 x 15mm soundboard

External wall Render (u-value 0.12 W/m²k) – Outer 10mm render, 100mm block (1.13W/mK), 50mm air space, 120mm Kingspan K15 insulation (0.02W/mk), 12mm cement board, 100mm mineral wool (0.038W/mk) between steel frame, 0.3mm VCL, 2 x 15mm soundboard

Corridor wall (u-value 0.12 W/m²k) – specification to be confirmed

Party wall – (u-value 0.0W/m²k) – fully filled with insulation and fully sealed at all edges

Roof

Roof flat (u-value 0.12 W/m²k) – Bauder system, metal deck, concrete slab composite

Windows/doors

All windows and doors are newly fitted and are to meet minimum standards for building regulations.

Windows are 1.4 double glazed

Heating

Primary heating is Electric panel heaters

Hot water system

Electric Air Source Heat Pump Dimplex EDL200UK-630

Heating controls

Time and temperature zone control

Ventilation

Mechanical ventilation- Vent Axia kinetic Plus B

Lights – Percentage to be low energy

100% of the lights are dedicated low energy

Renewable Technology

Solar PV
0.6 to 0.8kWp per dwelling
South facing, 30oC angle, if horizontal will need to increase PV power

Thermal Bridging - Accredited Construction Details (ACD)

ACD to be implemented in the design and construction of the dwelling/s. ACD checklists to be completed and signed towards the end of construction.

Thermal junctions complied with as follows: -

- E2 Other lintels, hi lintels
- E3 Sill
- E4 Jamb
- E5 Ground floor (normal)
- E20 Exposed floor (normal)
- E6 Intermediate floor within a dwelling
- E7 Party floor between dwellings (in flats)
- E14 Flat roof
- E16 Corner (normal)
- E17 Corner (inverted)
- E18 Party Wall between dwellings

Only for New Builds - Air leakage test

Air test design air permeability 3.0 per dwelling. An air test certificate to be provided at as built stage of construction. Please note, for developments with multiple dwellings, and where some are not tested, there will be a confidence factor of the average of the other test results, plus 2.0 m3/h.m2 at 50Pa.

Design stage sign off:

By signing below, you are confirming the above specification(s) will be implemented in the design and construction of the dwelling/s. If any changes are made to these above specifications, this could potentially result in a failed SAP calculation. Base Energy are not at liability for any building issues with the dwelling based on the above specifications. These specifications are solely to pass the SAP CO2 calculation for Part L.

Company**Name****Signature****Date**
