

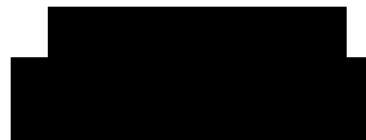


Chris Moore
Sussex Building Consultancy Ltd
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BOGNOR REGIS
PO21 5LZ

Therm Energy Limited
1 Tarrant Street
Arundel
West Sussex
BN18 9DG

Our Reference : YD-38

Sent By : E-Mail



5 May 2020

Dear Chris

Re : 9 Flats, 99 Victoria Drive, Bognor Regis PO21 2DZ - Thermal Calculations (Part L)

Further to receipt of your e-mail of 27 April 2020 (together with drawings), and subsequent correspondence, please find enclosed thermal (SAP) calculations reference YD3801 - YD3809.

These confirm the SAP rating of the dwellings, DER<TER & DFEE<TFEE (Part L1A compliance), all in accordance with Approved Document L1A (2013), effective 6 April 2014.

Important : Also attached is the area-weighted average TER/DER "block compliance" sheet.

Attached is the specification upon which the calculations are based. This is all in accordance with your (revised) specification.

Full payment has been received - many thanks (receipt attached = 19087).

I trust this is satisfactory. Should you have any queries, or would like to discuss anything, please do not hesitate to contact me.

Yours sincerely

Joe Solti (Project Director) joe@thermenergy.co.uk

Construction and Insulation

<u>Element</u>	<u>U-Value</u> (W/m ² K)
<u>Exposed Wall</u> (external) 102.5mm facing brick (or rendered or tile hung 100mm concrete block) outer leaf + 50mm clear cavity + reflective breather membrane + exterior grade plywood + 140mm timber frame (100mm Celotex GA4000 insulation between) + 12.7mm plasterboard (2 layers).	0.21
<u>Exposed Wall</u> (flat-common) Two leaves of 90mm timber frame (90mm Isover Timber Frame Batt between both) + 60mm cavity fully-filled with Isover Timber Party Wall Roll + 12.7mm plasterboard (2 layers, min 22kg/m ²). All edges fully sealed.	0.15-0.16
<u>Party Walls</u> (Robust Detail E-WT-1) Two leaves of 90mm timber frame (90mm Isover Timber Frame Batt between both) + 60mm cavity fully-filled with Isover Timber Party Wall Roll + 12.7mm plasterboard (2 layers, min 22kg/m ²). All edges fully sealed. Note : Therm Energy Can Provide Sound Testing.	0.00
<u>Ground Floor</u> 22mm Chipboard + 120mm Celotex XR4000 insulation + suspended concrete beam and block floor.	0.14
<u>Roof</u> (roof voids) 400mm mineral wool insulation (100mm between joists + 300mm cross-laid over, or 200mm + 200mm).	0.11
<u>Roof</u> (sloping ceilings) 110mm Celotex XR4000 insulation (between rafters) + 50mm Celotex GA4000 insulation (under rafters).	0.16
<u>Roof</u> (flat roofs) 110mm Celotex XR4000 insulation (between joists) + 50mm Celotex GA4000 insulation (under joists).	0.16
<u>Windows/Doors</u> PVC-u frame double-glazed + 16mm cavity (argon gas fill) + soft coat low-E glass, or similar to achieve a U-value of 1.50W/m ² K (or better).	1.50
<u>Front Doors</u> (to flats) PVC-u or timber (solid).	1.40
<u>Rooflights</u> Velux timber frame double-glazed + 16mm cavity (argon gas fill) + soft coat low-E glass + warm edge spacer.	1.30
Note : U-value certification will be required from the supplier for the windows and doors upon completion.	

Heating & VentilationMain Heating System

Conventional (mains) gas-fired central heating with radiators. Condensing boilers with annual efficiency 89% (or higher).

Secondary Heating System

Not applicable.

Water Heating

From central heating combi boiler.

Heating Controls

Time and temperature zone controls (delayed start room thermostat is required in each zone, min of 2 zones) + boiler interlock + enhanced load or weather compensator.

Ventilation

Background ventilators + intermittent extract fans (Approved Document F1, 2010, amended 2013).

Other

Detailing (ACDs)

Accredited construction details (limiting thermal bridging and air leakage) fully adopted : see www.planningportal.gov.uk.

Lighting

100% of internal light fittings are low-energy (lamp luminous efficacy > 45 lumens/circuit watt, total output > 400 lamp lumens).

Water Use

Total water use < 125 litres/person/day.

Air Tightness

Design air permeability is 4.5m³/h/m² at 50 Pa - to be achieved by air pressure test.

Note : Therm Energy Can Provide Air Leakage Testing.

Other Therm Energy Services (that may be relevant to this project)

> Water Use Calculations

> Air Leakage Testing

> Sound Testing

> Extract Fan Testing