

<u>Construction and Insulation</u>	
Element	U-Value (W/m²K)
<u>Exposed Wall</u> (main cavity) 102.5mm facing brick outer leaf + 125mm Knauf Dritherm 32 insulation + 100mm Celcon Standard 3.6N block inner leaf + 12.5mm plasterboard on dabs internal finish.	0.20
<u>Ground Floor</u> 65mm Screed + 130mm Celotex XR4000 insulation + solid or suspended concrete floor.	0.14
<u>Main Roof</u> 450mm Kanuf Earth Roll 44 insulation quilt (150mm between joists + 300mm cross-laid over joists).	0.10
<u>Windows/Doors/Roof Glazing</u> PVC-u or timber frame triple/double-glazed + 16mm cavity (air or argon gas fill) + low-E soft coat glass, to achieve a U-value of 1.20W/m²K. *** A Copy of the Window Energy Rating Certificate will be required for our records on completion***	1.20

<u>Heating & Ventilation</u>
<u>Main Heating System</u> Air Source Heat Pump for central heating and water with underfloor heating to Ground and Radiators to first. Sap Default annual efficiency 170% Note : It is recommend the heat pump is Product Charateristic Database (SAP Appendix Q) listed. Conventional (mains).
<u>Secondary Heating System</u> (where applicable) Not applicable.
<u>Water Heating</u> From central heating boiler. Hot water cylinder (200L) with maximum manufacturers declared heat loss of 2.06 kWh/24h (and thermostat). Based on Range Tribune HE cylinder data.
<u>Heating Controls</u> Fully independent time and temperature zone control (<i>note: separate plumbing circuits required, either with its own programmer, or separate channels in the same programmer</i>).
<u>Ventilation</u> Background ventilators + intermittent extract fans (Approved Document F1, 2010, amended 2013). Dwellings with basements may require continuous mechanical extract ventilation, or specialist advice where system 1 or 2 is used.

<u>Other</u>
<u>Detailing</u> Accredited construction details (limiting thermal bridging and air leakage) fully adopted : see www.planningportal.gov.uk . The dwelling must be constructed to this standard, and the relevant forms must be completed as building work progresses. <i>Note : Therm Energy may not be able to produce EPCs on completion unless all forms are completed as work progresses.</i>
<u>Lighting</u> 100% Low-energy light fittings in accordance with Part L1 (<i>Note: This is over and above Part L minimum standards</i>).
<u>Floor-Ceiling Heights</u> Ground Floor = 2380mm - 1st floor 2630mm (includes floor zone).
<u>Electricity Generation</u> Not applicable.
<u>Air Tightness</u> Design air permeability is 4m³/h/m² - to be achieved by air pressure test. <i>Note : Therm Energy Can Provide Air Leakage Testing.</i>

<u>Other Therm Energy Services</u> (that may be relevant to this project)
> Water Use Calculations > Air Leakage Testing > Sound Testing > Extract Fan Testing