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polarwall
insulating concrete formwork

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This project illustrates the flexibility of the Polarwall formwork to work below grade as well as above ground. Over 1500m³ of earth was removed to form the basement area to this large residential dwelling.



The basement itself is sat on a 300mm deep raft foundation with a kicker cast into the slab to prevent moisture ingress. At the same time the initial Polarwall structure was also cast into position giving extra moisture protection as well as providing the layout of the structure perimeter.



Key facts
Core size Basement 302mm
Insulation Standard 0.27Wm²K

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The ground conditions were such that the basement had to withstand significant hydrostatic pressures. Thus the design specification for the formwork provided for a 300mm concrete core with a single mesh of T16 reinforcing steel. The polystyrene shutter utilised the XPS grade given its excellent mechanical and moisture resisting properties. This also provided a U-Value of 0.27W/m²K, ensuring compliance with Part L of the Building Regulations.

The specified concrete was C35 grade strength. After construction tanking was applied to the outer face of the formwork to give the extra moisture protection.

