

Marmox Thermoblock Separates Surrey House from its Super Basement

The technical challenges of tackling linear heat loss at the interface of a very large, traditionally built house from its fully subterranean precast concrete “Super Basement” have been addressed through the inclusion of Thermoblock units, manufactured and supplied by Marmox (UK) Limited. The exclusive individual property being built by Searchfield Homes in Windlesham, Surrey, offers its purchasers a stunning 17,000 square feet of usable space, including a 5,500 square foot basement that has space for a swimming pool, cinema, snooker room and gymnasium. However, despite utilising a proprietary precast concrete, sectional system with integral waterproofing and insulation measures, the design and build contractor’s architectural consultants still had to specify an effective means of controlling heat loss at the ground floor perimeter. The detail would not only be required to satisfy Part L of the Building Regulations in order to avoid the use of punishing default factors in the U-value calculations, but also be able to carry the weight of the outer elevation. The answer came in the form of 267 Marmox Thermoblocks – measuring 100 mm wide by 65 mm high and 600 mm in length - and each one of which incorporates small cylindrical columns of high strength concrete within their low lambda value insulation. The units also feature a horizontal overlap to make installation simpler, with the joints being bonded together using Marmox Multibond adhesive, which is supplied in standard cartridges. The Site Agent on the project for Searchfield Homes explained: “This is a very large property built across three floors, including a precast concrete basement system.



In order to address potential heat loss at ground level our architects, Ascot Design, identified Marmox Thermoblock as offering the best solution, with the 600 mm long units forming a course right around the external leaf to the outside wall. The wall construction is completed by 140 mm inner leaf and a 125 mm wide cavity that will be fully filled with blown insulation to achieve a level of energy loss comfortably within what is required by the Building Regulations.” The load-bearing composite product has been developed to be incorporated into various wall constructions as a horizontal layer, equivalent to a course of bricks, in order to address a critical area of heat loss, thereby reducing energy bills and making a significant contribution to SAP (Standard Assessment Procedure) calculations. Each Thermoblock is comprised of ultra-high performance XPS insulation, encapsulating miniature columns of concrete, while the top and bottom are covered by alkali resistant glass-fibre mesh, retaining a surface of fibre reinforced polymer concrete to facilitate bonding.

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