

Award Winning Thermal Liteblock

Alan Lowe, Roadstone's Senior Technical Manager discusses the new developments regarding Roadstone Thermal Liteblock, their large range of thermally modelled construction details and the features and benefits of the Thermal Liteblock which is available from Roadstone outlets nationwide.

Roadstone's multi-award winning Thermal Liteblock is manufactured by Roadstone in Ireland. Thermal Liteblock is used at key junctions to provide reductions in thermal bridging and heat loss. It has thermal conductivity values less than 0.33 W/mK which is a 300% improvement over standard concrete blocks. This is achieved using a specific mix design which includes lightweight aggregates. This mix produces a robust concrete block with excellent insulation properties while maintaining structural strength and allowing for traditional construction methods to be used. Thermal Liteblock can be used with traditional mortars and renders and is compatible with standard concrete fixings.

By 2016 Thermal Liteblock was established in the market, winning national awards. Speaking to Irish building magazine, Alan says Thermal Liteblock has proved to be a very successful product, being specified by designers on a wide range of domestic, commercial and public projects. He describes Roadstone's most recent addition to the Thermal Liteblock range, developing a higher strength Thermal Liteblock: "We have recently developed a 13N/mm² Thermal Liteblock. The building regulation minimum standard is 7.5 N/mm² for the compressive strength of standard and lightweight concrete blocks. The 13 N/mm² Thermal Liteblock is suitable where higher design strength is required, such as in commercial developments where compliance with NZEB (Near Zero-Energy Buildings) is required. Thermal Liteblock is now available in a range of strengths, sizes and configurations providing far greater design and construction flexibility for our customers."

The Roadstone Thermal Liteblock system combines the Roadstone Thermal Liteblock with the Roadstone Concrete Block range, which when used in accordance with the Acceptable Construction Details (ACDs), achieves Psi values equal to or better than the standards set out in TGD Part L 2011. Roadstone have thermally modelled all relevant details in Appendix D of TGD L 2011. From this extensive research, Roadstone are now in a position to provide detail solutions that comply fully with Psi value requirements outlined in TGD L 2011 - Appendix D. Roadstone also offers a specialist design service. Alan explains, "If a client comes to us with a project at the design stage or with bespoke details we can engage our design consultants Evolusion Innovation to carry

out fully certified γ value calculations for the project. From this, we can assist our customers in identifying cost savings and/or enhanced Building Energy Rating (BER) performance. We have over 150 certified thermally modelled details that are available to our customers for incorporation into their projects."

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Alan describes how the Thermal Liteblock was originally developed. "Roadstone recognised back in 2013 that Part L of the building regulations had changed the thermal bridging requirements for construction details. We reviewed the Psi value requirements in Part L and examined how we could achieve a more thermally efficient concrete block to achieve compliance. We completed 12 months of Research & Development to manufacture a concrete block with low density and improved thermal performance while maintaining the required structural characteristics of a concrete block." Speaking of their success, he says, "We were able to achieve a thermally efficient block and one which meets the robustness, integrity and strength that is required by the Irish and European standards."

Further information can be found on the Roadstone website www.roadstone.ie

Key features and benefits:

Reduced Thermal Bridging resulting in reduced heat loss, and lower heating bills.

Excellent thermal conductivity (Lambda λ) value less than 0.33 W/mK for masonry block.

Robust and durable concrete block with a



minimum compressive strength of 7.5N/mm².

Suits traditional construction methods familiar to Irish and UK designers and builders.

CE marked – manufactured to the requirements of I.S. EN 771-3 to System 2+.

Thermal Liteblock is required only in key locations in conjunction with the Roadstone Concrete Block range.

The Roadstone Thermal Liteblock system is a very cost effective solution and can result in significant savings in the overall build cost.

Improved (γ) value calculations are achieved when using the Roadstone Thermal Liteblock system.

When a full building specific (γ) value calculation is carried out using the Psi Values incorporating the Roadstone Thermal Liteblock, improved (γ) value of between 0.03 and 0.06 can typically be achieved.

Compliant U-values are achieved without having to provide a cavity in excess of 150mm.

Roadstone Thermal Liteblock is unique in colour to enable traceability on site. Photographic recording of the Thermal Liteblock built on site can then form evidence of compliance for the Assigned Certifier, Architects, Engineers and BER assessors.

Thermal Liteblock's 2016 Awards:

Winner Best Interior Building Product – RIAI Architecture Choice Awards

Winner Best New Product Innovation – Irish Build & Design Awards

Winner Construction Product of the Year – Irish Construction Industry Awards ■

