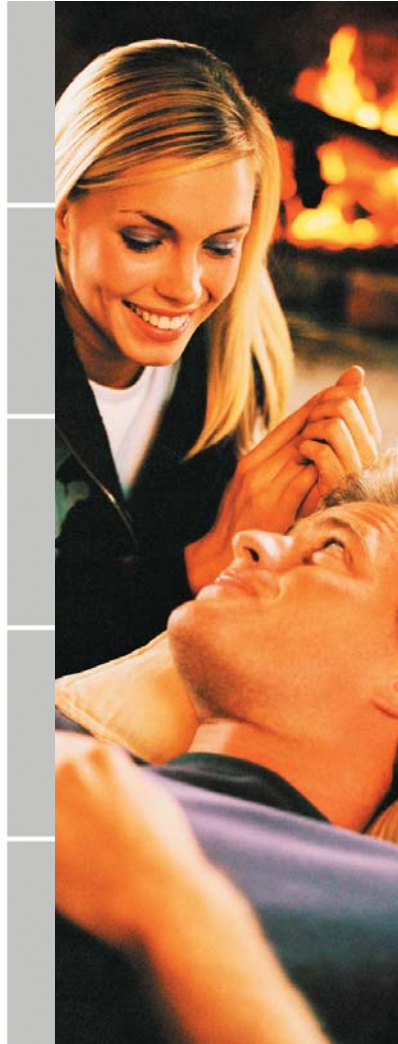


THERMAL PERFORMANCE

WHY IS THERMAL PERFORMANCE IMPORTANT?

- House builders are under pressure to design and build homes that not only conserve energy, but more specifically reduce CO₂ emissions.
- Many factors need to be taken into consideration when designing a building and the impact of those factors on the thermal efficiency. The risk of solar over-heating, the importance of ventilation and air infiltration and the possible need for air-conditioning all need to be factored in when choosing the construction material and method in order to comply with stringent Building Regulations.
- Another important aspect to consider is thermal mass, which is a measure of how much heat a building component can absorb, store and then release back into interior spaces. By storing the warm daytime heat from warm air and direct sunlight this delays the rise in daytime internal temperature which is then released back into the dwelling as the external temperature drops.

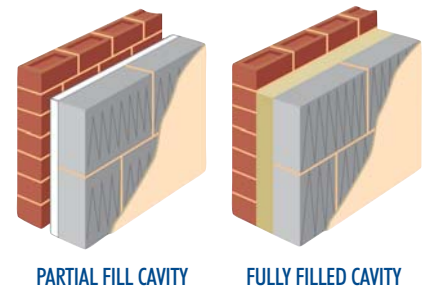


HOW DOES AIRCRETE STACK UP?

- Aircrete has excellent thermal insulation characteristics, offering good thermal insulation, good thermal mass and air tightness properties.
- It reduces the extremes of internal temperature within a building, keeping it at a more consistent and comfortable level by reducing the high and low characteristics of lighter, low thermal mass structures regardless of how high their levels of thermal insulation.
- Unlike other building products, such as timber and metal frame, Aircrete does not require large amounts of additional insulation to achieve good thermal performance. The cellular structure of Aircrete products minimises heat loss, saving vital energy and reducing the need for costly insulation.
- When combined with Aircrete's lightweight large format blocks, the thin layer system provides considerable labour savings, improved thermal efficiency, less waste and faster construction.
- Aircrete produces minimal wastage and provides greater freedom for a versatile and innovative house design.
- Because Aircrete falls between lightweight construction and heavyweight, it is in the unique position of being able to combine low thermal conductivity with specific heat capacity. Low thermal conductivity refers to the ability of a building, which has been built using Aircrete, to warm up quickly from cold during the winter. Its high thermal mass then ensures that it cools down slowly once the heating is switched off.
- Aircrete constructions can easily comply with the requirements of Part L of the Building Regulations.
- Aircrete can be used in clear cavity, full or partial fill wall solutions without necessarily increasing wall thickness - a primary concern when seeking to minimise liveable space within the building footprint. Using the more efficient calculation methods of compliance means that designers will be able to use existing design and construction details that have proved so efficient in the past.
- One of the most significant aspects of the revisions to Part L is the increased emphasis on air tightness. Air pressure testing is now required for new dwellings and Aircrete blockwork achieves excellent air permeability ratings using general purpose mortar. These ratings are even better when using Aircrete's thin layer mortar (often referred to as thin joint mortar) as it is applied in such a way that the mortar joint is fully filled, reducing the air infiltration rate and decreasing ventilation heat loss.



TYPICAL PART L SOLUTIONS



The Aircrete Products Association comprises H+H UK, Tarmac Topblock, Thermalite and Quinn Lite – the major manufacturers of Aircrete products in the United Kingdom. It is a non profit-making organisation dedicated to promoting the benefits of Aircrete building products.



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