

## the use of Aircrete's SOLID WALL CONSTRUCTION

Building with solid external walls provides a speedy form of construction that takes full advantage of Aircrete's unique combination of light weight, strength and superior thermal performance. Its use fully complies with current changes in the Building Regulations, is highly cost-effective and accommodates a range of external finishing solutions that makes it ideal for domestic, commercial or industrial applications.

### RAPID BUILD TIMES

Single leaf, solid wall construction, combined with Aircrete's ease of handling enables more rapid build to eaves level, allowing earlier completion of the roof. This in turn allows early access to finishing trades, resulting in a significant reduction in overall completion times. Build time is further improved when used in conjunction with thin joint mortar systems – an innovative Aircrete development that significantly reduces construction times, improves thermal performance, air-tightness and the risk of moisture ingress (see factsheet No. 4).

### A CHOICE OF FINISHES

Aircrete solid walls open up a wide range of finishing options, and can even reduce dependence on traditional wet trades. Tile hanging gives an equally attractive alternative to brickwork, with battens affixed easily and quickly to the Aircrete substrate. Other external finishes include timber cladding, brick slip systems or the numerous rendering options.

### EXCELLENT THERMAL PERFORMANCE

Aircrete is an intrinsically efficient insulation material and the popularity of solid wall Aircrete construction in Scandinavia and Northern Europe, is in large due to the excellent thermal performance that can be achieved.

### SAVES TIME AND COSTS

The absence of a cavity eliminates the need for other products and processes, saving on labour and material costs and reducing the risks of failure and moisture penetration through the cavity. Solid wall construction is also associated with low on-site wastage.

### HIGH FROST AND MOISTURE RESISTANCE

Aircrete is highly resistant to frost damage and continuous freeze-thaw tests show no strength reduction under these conditions. The natural integrity of Aircrete's closed cell construction resists the passage of water and forms an effective barrier against moisture penetration.

### A STRONG AND DURABLE SOLUTION

Solid wall Aircrete is available in different strengths to suit different applications, from 2.8N/mm<sup>2</sup> – suitable for most domestic applications – through to 7N/mm<sup>2</sup> for taller buildings subject to high vertical and/or wind loading. Being resistant to rot, fungal, insect and sulfate attack, Aircrete's long-term durability is reassuringly predictable.



*Aircrete's ease of handling and lack of cavity enables a rapid build to eaves level, allowing the roof to be completed earlier. Finishing trades can commence sooner, resulting in a significant reduction to the overall completion time.*



*Such is the versatility of Aircrete that it permits a wide range of finishing options. Tiles can be secured onto timber battens and positioned directly onto the blockwork to produce an elegant façade.*

## NEUHAUS CASE STUDY

Housebuilders Newhaus systems, dedicated practitioners of solid wall thin joint construction, are fully aware of the benefits to be gained from thin joint masonry having used it for many years on the continent. They therefore decided to adopt this quick, clean and productive approach on one of their recent housing projects in North Wales.

Three houses situated in Bodelwyddan, which is part of a Denbighshire Conservation Area, have been built using the solid wall method. The decision to use the solid wall format was partially made on the basis that the rendered external finish, along with stone cladding, provided a simple, but attractive appearance. It also allowed the houses to blend into the local setting and comply with the planning requirements which govern this Conservation Area.

Due to their light weight, Aircrete blocks offered labour saving benefits and ensured rapid progress due to the ease with which they were handled, cut and shaped. The thin joint mortar bed meant a greater number of courses could be constructed than with heavier types of masonry, and a solid, stable structure was quickly completed.

Because of their cellular structure, Aircrete blocks possess inherent thermal qualities and in this case eliminated the need for added insulation. Each house achieved a wall U-Value of 0.3W/m<sup>2</sup>K and the maximum SAP rating of 100.

Aircrete was also used in the beam and block construction of both the ground and first floors in conjunction with underfloor heating. Such is Aircrete's versatility - allowing total freedom in design, whilst yielding minimal wastage.



*Due to an inherent combination of strength and insulation, Aircrete solid wall construction is the method favoured by housebuilders Newhaus Systems.*



*Aircrete is a strong and durable solution for external wall constructions that is highly resistant to frost damage, moisture penetration, rot, fungal, insect and sulfate attack.*

### SITE PRACTICE

Blocks should be unloaded on to a dry, level surface, and should be covered to protect them from inclement weather. Blocks that have become wet should be allowed to dry out before use.

### FOR MORE INFORMATION

This factsheet is only intended to be an outline guide to Aircrete products and you are advised to contact Aircrete Bureau members for comprehensive technical support and guidance, backed by extensive technical literature covering every aspect of designing and working with Aircrete and solid wall construction.



**H+H UK LTD**  
Celcon House, Ightham,  
Sevenoaks, Kent TN15 9HZ.  
Tel: 01732 886333 Fax: 01732 886810  
Technical Advice: 01732 880580  
Sales Office: 01732 886444  
www.hhcelcon.co.uk



**Tarmac Topblock Limited**  
Millfields Road, Ettingshall,  
Wolverhampton WV4 6JP.  
Tel: 01375 656210  
Technical Advice: 0870 2421489  
Sales Office: 0845 606 2468  
www.topblock.co.uk



**Hanson Building Products**  
Stewartby,  
Bedfordshire MK43 9LZ.  
Tel: 08705 258258 Fax: 01234 762040  
Technical Advice: 08705 626500  
Sales Office: 08705 626500  
www.thermalite.co.uk



**Quinn Group**  
Derrylin, Co. Fermanagh,  
BT92 9AU N.Ireland  
Tel: 028677 48866 Fax: 028677 42309  
Technical Advice: 028677 48866  
Sales Office: 028677 48866  
www.quinn-group.com