aircrete

FACTSHEET 4

the use of Aircrete's THIN JOINT SYSTEM

Faster build times and increased productivity on site are offered by Aircrete's thin joint system. Thin joint mortar combined with large format blocks is an innovative building system that improves thermal performance, air tightness and waste reduction. The thin joint mortar is a pre-mixed cement based product, which only requires adding to water to produce easily applied mortar. As a replacement to traditional sand/cement mortar, it allows the depth of the mortar to be reduced from the conventional 10mm to 3mm or less.

FASTER BUILD SPEED

The use of thin joint and large format blocks has a major effect on build times and typically a single storey can be built in a day. The thin joint mortar, applied to horizontal courses and perpends, is formulated to achieve a strong bond that sets within 30 minutes. This minimises the incidence of 'floating' that occurs with traditional mortars, which consequently limits the number of courses that can be laid. The light weight of the blocks mean they can be handled with ease, aiding speed of laying.

INCREASED PRODUCTIVITY

With an accelerated setting time, the productivity gains of using the thin joint system in cavity walls become more apparent. By completing the inner leaf so rapidly, earlier installation of other components such as floors and roof timbers is possible. This, in turn, allows finishing trades access much sooner than with traditional building programmes. By separating outer and inner leaf construction schedules, a rapid weathertight envelope is achieved, with the brickwork or external cladding no longer affecting completion times.

MORTAR

The pre-mixed mortar is specially formulated and easily applied, giving a full-fill bond which significantly improves the air-tight properties of the construction. A winter grade mortar is available which can allow construction to continue in lower winter temperatures subject to good site practice.

WASTAGE

The accurate cutting of blocks reduces block wastage to a minimum and much less mortar is required. Supplied in 25kg bags, the mortar cost is similar to conventional sand/cement construction, but produces much less waste.

SOUND INSULATION

The structure of Aircrete, consisting of tiny, non-interconnecting air cells, gives high resistance to airborne sound.

FIRE RESISTANCE

A simple and economic means of protecting buildings against fire, Aircrete blocks are non-combustible and will provide fire resistance for much longer than the requirements set out in the Building Regulations.

THERMAL PERFORMANCE

The Building Regulations require that heat loss through mortar joints is taken into account when calculating U-values for walls. The use of thin joint blockwork can minimise heat loss effects by reducing the relative area of mortar per m^2 of wall. For example in a clear cavity solution an improvement of up to 10% in U-value can be achieved.

EUROPEAN USE

The system has full Agrément certification and whilst a relatively new system to the UK, it has been used in Europe for many years, where it is used in both solid wall as well as cavity construction.

The pre-mixed mortar is easily applied and Aircrete blocks, manufactured to such a high degree of dimensional accuracy are ideal for use with thin joint mortars.

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CALA CASE STUDY

Leading housebuilder CALA Homes has radically shortened its build times following the adoption of the thin joint system of construction on many of its new developments. Large format blocks were used in conjunction with the specially formulated thin mortar joint of just 3mm. With the increased speed of laying and setting times of just 30 minutes, the inner leaf was completed in a fraction of the time taken using traditional forms of construction.

As a result, the time taken to seal the roofs on large detached houses was reduced from 5 weeks to just 5 days – a remarkable improvement, yet one which retains the traditional masonry inner leaf, which research consistently shows to be the preference of homebuyers.

Producing a weather-tight structure in quick time permitted far earlier access for the finishing trades, making a total build time of just 12 weeks. In addition, the thin joint system produced significantly less wastage than that generated by traditional construction techniques.

The blocks used in the thin joint system enjoy all the traditional benefits of Aircrete. They can be cut and chased using ordinary hand tools, are lightweight and easy to handle, and of course, possess excellent thermal performance.

The adoption of the thin joint technique has allowed leading housebuilder CALA Homes to radically shorten its build times.

Faster build times and increased productivity on site are offered with the thin joint system, particularly when used with Aircrete's large format blocks.

INSTALLATION

The build process is just as simple as traditional masonry and it requires similar skills.

WALL TIES

There is a range of cavity wall ties suitable for use with thin joint masonry.

FOR MORE INFORMATION

This fact sheet is only intended to be an outline guide to Aircrete products and you are advised to contact the Aircrete Bureau members for comprehensive technical support and guidance, backed by extensive technical literature covering every aspect of designing and working with Aircrete and thin joint masonry.

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