September 2013
CI/SfB Ff4

Tŷ Llidiard - Litchard House, Princess of Wales Hospital, Bridgend, Wales

Principle Contractor: BAM Construction, 387 Newport Road, Cardiff, CF24 1TP

Client: Abertawe Bro Morgannwg University Health Board, One Talbot Gateway, Seaway Parade, Port Talbot, SA12 7BR

Build method: H+H's Celcon Plus Blocks using Thin Joint Celfix Mortar for both separating and internal walls

Location: Princess of Wales Hospital, Coity Road, Bridgend, CF31 1RQ

Type of contract: Design and build

Architect: Nightingale Associates, The Old Convent, The Walk, Cardiff, CF24 3AG

Aircrete contractor: Brick Peers, Milton Priory House, Gate Lane, Wells, Somerset, BA5 1UA

Build time: January 2010 until May 2012

Separating and internal walls: Celcon Plus Blocks Standard Grade and High Strength Grade in 100, 140 and 215mm thicknesses

Project:

A recently constructed £15m Child and Adolescent Mental Health Service (CAMHS) facility in Bridgend called Tŷ Llidiard (Litchard House). It's a 19 bed mental health facility for young people built on the Princess of Wales Hospital site, Bridgend

Construction was managed by ABMU Health Board with the facility run by Cwm Taf Health Board. It accommodates patients from across South Wales and is a mixed sex unit, caring for young people

The unit is spread across two floors. On the ground floor are the patient areas, split into two wards: Seren (Star) and Enfys (Rainbow). Seren is a five bed, acute ward, and Enfys has 14 beds. On the second floor is an educational wing together with administration and consulting facilities

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"We needed to build to low U-values for walls and H+H aircrete blocks helped us to achieve this. The dimensional accuracy of the Thin Joint system increased the speed of the entire process.

Celcon Plus Blocks are also particularly robust, which is essential for a project like this as the facility will experience wear and tear and is designed to last for a long period of time.

During my 26 years in the industry I have used H+H blocks on many occasions. My previous experiences with H+H are from within the housing sector, however, the blocks fitted the specification perfectly for this clinical unit.

Also, during the course of the build the team received fantastic technical support from H+H"

Mike Sealey, Design Manager, BAM

Executive summary:

H+H aircrete was chosen for this project due to the U-value results possible when building with it, its robustness, dimensional accuracy and the speed of application possible with the Thin-Joint system.

The MMC Thin-Joint System meant that a frame wasn't required for this project apart from a section that had large spans, making an overall saving of around £350,000.

All stakeholders involved in the project were included in the decision making process from the outset, allowing for a strong sense of team spirit. It was this collaborative approach that led to the Thin-Join System being used as it was seen as being a more holistic solution.

"This project demonstrated how early involvement could maximise the benefits of our Thin Joint solutions to its full potential, with the whole design team/ supply chain working very closely and effectively together"

Stuart World, National Construction Manager, H+H

Product benefits:

- Easily meets or exceed Part L and Part E of the Building Regulations
- Simplifies the construction process
- H+H aircrete products use up to 80% recycled material
- Achieves A+ rating in the BRE Green guide

Other benefits included:

- The components for Thin Joint block-work are all available off the shelf
- Blockwork is highly adaptable, easily allowing for any last minute design changes
- Aircrete achieves an air permeability of 0.12m³/hr/m²
- Celfix mortar can be stored within the footprint of the building and small quantities mixed as required
- Has excellent fire resistance with a Class 0 rating for surface spread of flame

H+H aircrete applications

- Internal and external leaf in cavity walls
- Solid walls
- Separating / party walls
- Flanking walls
- Partitions
- Multi-storey
- Foundations

The H+H Thin Joint aircrete construction system enables a fast, weathertight masonry shell to be built, allowing follow-on trades to start work sooner in a weatherproof environment, whilst retaining the flexibility of on-site construction. Recognised as a Modern Method of Construction, it is fully adopted as the preferred method of wall construction throughout most of northern Europe.

Aircrete is an excellent all round commercial and industrial building material. Used in partition and external walls (both solid and cavity), fire walls and as infill to steel and concrete framed buildings it provides durability, fire resistance and superb thermal and acoustic insulation.

H+H aircrete has exceptional sustainability credentials: it provides excellent thermal and acoustic insulation and contributes to air-tightness and being manufactured from up to 80% recycled materials, it is sustainable both in manufacture and in use. We also have BES 6001:2008 accreditation for responsible resourcing of materials and an A+ rating under in the BRE green guide on both cavity and solid external walls.

Couple this with H+H UK's rigorous approach to pursuing the highest environmental standards throughout the whole of its business and it's easy to see why this innovative and award winning system is now firmly established within the UK.

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Further reading
Designing with Aircrete
Building with Aircrete
The Excellence of Aircrete - the all round commercial and industrial building product Fact sheet 9 Solid wall construction Building with aircrete

For further information about the subjects covered or the H+H products used in this case study, please visit our website **www.hhcelcon.co.uk**