



Elme Hall Hotel Wisbech, Cambridgeshire

Main Contractor: Paktel Telecommunications Systems LTD.

Paktel own the site, the hotel and were in effect both contractor and client for this development

Client: Elme Hall Hotel

Project: Demolition of existing outbuildings of the Elme Hall Hotel, followed by construction of a 34 bedroom building known as 'The Lodge', this extension has been built to cater for extra demand at the hotel with all modern facilities expected of today's hotels

Build method: Cavity walls with traditional mortar using 100mm thick H+H Celcon Blocks for external wall inner leaves with 100mm cavity, Knauf Dry Therm insulation (specifically intended for this application) and 105mm brick facings. Internal separating walls were made using 215mm thick H+H Celcon Blocks in a solid wall configuration finished with conventional plastering. Concrete strip footings were used below ground with a concrete sub base and Bison concrete planks for separating floors. A screed finish was applied to all floors internally with insulation below the screeds. The two storey building was topped with a traditional timber trussed roof with a slate finish.

Value: £1, million for the whole project and approximately £200,000 for the blockwork elements

Location: 69 Elm High Road, Wisbech, Cambs, PE14 0DQ

Type of contract: Design and build

Aircrete contractor: J H Cook Ltd, 6 The Leam, Friday Bridge, Wisbech, Cambs, PE14 0JA

Architect: Richard C.F. Waite Chartered Architect, 34 Bridge Street, Kings Lynn, PE30 5AB

Build time: 12 months in total

CI/SfB	Ff4
--------	-----



Executive summary:

Being a hotel, acoustic considerations were of paramount importance as was robustness of construction materials. As a commercial development there was no need to meet a standard such as the CfSH, but the solution still needed to comply with Building Regulations and be cost effective. Therefore, an aircrete solution was chosen by Project Manager Kevin Wood of Paktel Communications

Reason for choosing H+H aircrete products:

Paktel Communications was looking for an aircrete construction over timber frame primarily due to acoustic considerations. The robustness of finished solid aircrete walls was also an important factor as was the technical backup the company received from H+H before the project even began. H+H provided detailed information via phone and at site meetings prior to work starting in the ground, including costings and acoustical information

“The decision to use aircrete was entirely down to me as being in the hotel business timber frame is not the best choice, especially in today’s world.

Nowadays we have flat screen TV’s on every wall and guests bring with them iPod’s, speakers, laptops and the like so the transmission of sound is a big concern. With high footfall hotel rooms need to be robust too, guests are not renowned for treating them as they would do at home and aircrete has properties that fit in with these requirements.

Having made that material choice we contacted all the major aircrete manufacturers for information and the only one who came back with anything was H+H. We would make a phone call and receive information, which did not happen with other companies.

The building is now completed and we have exceeded the Building Regulations for transmission of sound and airborne noise. This excellent resistance to airborne and transmitted sounds provided by the solid aircrete walls eliminates the usual complaints of adjacent room noise present in so many hotels.”

Kevin Wood, Project Manager, Paktel Communications LTD

“Right from the start the intention was to achieve the best possible sound reduction for the internal walls whilst making sure the solution was robust and cost effective. To this end we used aircrete, as it ticked all these boxes whilst also being lightweight to handle and easy to install on site. Personally I like using aircrete within a solid wall configuration and would not hesitate to use H+H Celcon Blocks for this application again.”

**Darren French BA (Hons) Arch.,
Richard C.F. Waite
Chartered Architect**



Product used / aircrete specification:

Cavity and solid wall constructions using traditional mortar and H+H Celcon Blocks

External and internal separating walls

3.6N/mm² H+H Celcon Blocks (440mm x 215mm face size and 100mm thick) were used for the external walls. 215mm thick versions of the same variety was used for internal separating walls

Foundations and floors

Concrete strip foundations used for the entire project with a concrete sub base and Bison concrete planks for separating floors

“For years there has been a preconception that to build a wall with good sound insulation properties you have to have something which is heavy and dense or made up of a number of layers. This is not the case, as aircrete is actually inherently excellent at reducing airborne sound travel, especially when used in a solid wall configuration.

At Elme Hall hotel, the client specifically needed internal walls that would limit noise transfer between rooms and also be able to withstand screwed-in fixtures and fittings. We spent a great deal of time going through the technical and acoustic details with Paktel and in the end solid aircrete walls were the best option.

What people don't often realise is that air bubbles chemically introduced to our Celcon Blocks during manufacture actually help breakdown noise. These air bubbles also enhance the blocks' thermal properties.

This aspect has been exploited for over 60 years in the construction of new homes and extensions, particularly in the inner leaf of external walls, but only recently has it been appreciated by specifiers and end users that the blocks also perform well acoustically for internal walls. Elme Hall hotel is perfect evidence of that.”

Stuart World, H+H National Construction Manager





Roof

Timber trussed rafter type pitched roof construction with slate finish. The roof structure was designed, manufactured and installed by Aspect Roofing of Norwich

H+H aircrete applications

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

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.

Added to this H+H aircrete has exceptional sustainability credentials: not only does it provide excellent thermal and acoustic

insulation and contributes to air-tightness but, being manufactured from up to 80% recycled materials, it is sustainable both in manufacture and in use.

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.



Contact details

For enquiries call
Tel: 01732 886444
or email: info@hhcelcon.co.uk

Head office

H+H UK Limited
Celcon House
Ightham, Sevenoaks
Kent TN15 9HZ

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