

Wates Living Space - Royal Berkshire Court



Developer: Wates Living Space

Client: A2Dominion

Project: The site was previously that of a sheltered housing block in a state of disrepair. Once demolished, A2Dominion worked in partnership with contractor Wates Living Space and South Oxfordshire District Council on the HCA-funded scheme to provide general needs housing. The development will offer much needed affordable housing in a mix of flats and terraced houses

Build method: Ra Build: Thin jointed masonry shell with cavity wall construction as a labour-inclusive package

Value: £3.5m. The aircrete value of the entire development is £439k

Location: Royal Berkshire Court, Green Close, Didcot, Oxfordshire OX11 8TF

Type of contract: Design & Build

Architect: Calfordseaden

Block-laying subcontractor: Minett Group
(Minett Group is an established H+H UK recommended contractor)

Project description:

28 new affordable homes consisting of both separate semi-detached houses and one, three-storey block of flats. There will be two one-bed flats, four two-bed flats, 13 two-bed houses and nine three-bed houses, one of which will be made suitable for a wheelchair bound resident. The site is completed with 51 parking spaces and makes use of micro-renewable technology in the shape of solar roof tiles.



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Executive summary:

The development made use of the Rå Build method of construction throughout. This involves building the entire inner skin of a building including inner leaf, internal and separating walls using H+H aircrete. The development had to meet level 3 of the Code for Sustainable Homes, as well as satisfying Parts L and E of the Building Regulations.

Build time:

With the scheme split between individual houses and an apartment block, build time varied. Approximately 10 weeks were taken to complete the aircrete element of the apartment block. 16 weeks were taken to complete the houses. In total, some 5,200m² of aircrete was laid.

“The lead times were eliminated, therefore saving time and reducing the programme costs. Instead of requiring timber-frame’s design and cutting processes in the factory, the RåBuild method simply uses minor changes to standard building techniques.”

Craig Hart, Managing Director, Hart Construction



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Product used / aircrete specification:

For the 22 houses:
3.6N/mm² Jumbo Bloks
610 x 270 x 100mm thick

For the apartments:
7.3 N/mm² Jumbo Bloks
610 x 270 x 147mm thick

Walls:

The twin-skin internal and external walls use the same 100mm-thickness of H+H's 3.6N/mm² Jumbo Bloks. Rockwool insulation fills the 100mm cavities. For the apartment block's outer walls, the higher 7.3N/mm² specification Jumbo Bloks were applied to take the load of the extra storey. The interiors were lined with plasterboard on dabs.

This specification has been predicted to achieve air loss levels of between 4 and 5m³ per hour, a U-value of 0.27W/m²K and therefore help to meet level 3 of the Code for Sustainable Homes.

Floor - Concrete floor planks:

The Rå Build method enabled Wates Living Space to cost the project with a saving of £20,000 less than using a timber-frame approach.

Rå Build created the exterior walls, upper floors and partitions as a labour-inclusive package supplied by the Minett Group, without any of the logistical problems associated with co-ordinating different trades for each stage.

The first-fix trades could start work inside whilst the external skin went up - therefore saving valuable time and money.

Unlike most frame systems, the Rå Build method required no waiting time for settlement before the mostly face-brick finishes and either render or Eternit composite weatherboard were applied.

The use of large-format lightweight aircrete and quick-setting thin-layer Celfix mortar enabled full-storey heights to be built in a day.



"We also considered timber frame, but because Rå Build is more robust and has short lead times, cost savings can be made on the development."

Ray Gasson,
Construction Manager,
Wates Living Space

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H+H aircrete applications:

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

The system enables the structure of a building to be constructed faster and to a better quality, allowing follow-on trades to start work sooner in a weatherproof environment, whilst retaining the flexibility of on-site 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.

The speed of build and waste reduction that can be achieved using the Rå Build method with the Celcon Thin Joint System helps in meeting the stringent requirements of build schedules.

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 80% recycled materials, it is sustainable both in manufacture and in use. Couple this with H+H'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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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