

# CONSTRUCTION OF 2 BUNGALOWS USING I-HOUSE SYSTEM

**Principle contractor:** Karm Homes

**Location:** Charlton Marshall, Blandford, Dorset

**Project timescale:** Completed August 2024



The i-House system, a Modern Method of Construction (MMC), which uses **H+H Vertical Wall Panels** has been used in the construction of two bungalow style homes in Charlton Marshall, near Blandford Forum in Dorset.

The solution provided a fast, efficient build, with the durability that comes with a traditional masonry home.

Affordable home developer, Karm Homes built two rural chalet style homes in Charlton Marshall. These three-bedroom houses are one storey with a room in the roof, and benefit from picturesque views of the Dorset countryside.

Karm Homes wanted a speedy solution for the build that didn't compromise on quality. They have used the i-House system before and been impressed with the results so chose to use it again for this project.

The i-House system is an MMC which was designed by H+H in collaboration with Roofspace Solutions to provide a fast and efficient build that meets modern building standards. Providing the complete watertight shell of a standard house design in just one week, the solution is comprised of **H+H Vertical Wall Panels (VWPs)** and prefabricated floors and roofs.

## Get in touch:

Call us to discuss your housing project

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Vertical Wall Panels are storey-high panels made from aircrete, engineered offsite and lifted into position onto standard foundations using a crane. The panels are secured with a fast-setting, high-strength mortar that forms a precise 2mm airtight joint. This process offers time-efficient construction with minimal waste generated onsite.

The thermal efficiency of Vertical Wall Panels is excellent, achieving an impressive U-value of 0.17 W/m<sup>2</sup>K, which adheres to Passivhaus standards for energy-efficient buildings.

In addition to its thermal benefits, aircrete boasts excellent resistance to fire, moisture, and mould growth - factors critical for maintaining indoor air quality and safety in homes. With a lifespan exceeding one hundred years, Vertical Wall Panels are a solid choice for the construction of durable and comfortable residences that can stand the test of time.



### Housebuilder comments:

“We have looked at other MMC systems, such as SIPs, but found them to be more expensive than the i-House masonry solution, plus the increased fire risk and insurance premiums associated with a timber build.

“We use local architects to design our houses. When we suggest H+H Vertical Wall Panels to them, they’re sometimes unaware of the option. However, once they’ve seen the system in action, they’re completely converted. We can’t understand why more companies are not using this solution.”

– Martin Keenes, Director at Karm Homes



### Reason for choosing H+H aircrete:

The main benefit of the H+H Vertical Wall Panels and the wider i-House System for Karm Homes was the speed of construction. Karm Homes also prefers building with masonry as they have found their customers expect the durability that comes with a masonry home.

Martin Keenes, Director of Karm Homes, says his team enjoys building with the i-House solution, and feels it is an ideal system for smaller housebuilders developing niche sites. Where they can, they ensure the floorplate of each home is designed around the 600mm width of the Vertical Wall Panels, which allows them to reduce cuts, wastage, and time.





## Products used / aircrete specification:

H+H Vertical Wall Panels serve as the core structural elements in houses, designed to be used for the inner leaves of all load-bearing external walls. These panels are manufactured to meet the standard storey height of typical homes, featuring a width of 600mm and a thickness of 100mm.

Where narrower modules are required, such as when fitting under windows, the panels can be easily resized on-site. This adaptability minimises product waste and promotes cleaner work environments by reducing excess material clutter.

**Vertical Wall Panels** come lightly reinforced, which ensures safe handling and transportation without compromising their structural integrity. Their design enables efficient assembly, contributing to faster construction timelines while maintaining high-performance standards in insulation and durability for modern housing needs.

## Foundations:

The foundations were built using concrete strip and beam and block foundations.

## External walls:

The walls are finished with external brickwork.

## Roof:

'Roofspace i-Roof', a panellised room-in-the roof system is part of this i-House package.



## H+H comment:

"We're delighted that Karm Homes continues to find success using the i-House system. Our Vertical Wall Panels are ideal for housebuilders of all sizes looking to construct efficient, high-quality builds, whether as part of the i-House package or as a self-delivered solution.

We look forward to seeing more Karm Homes projects using Vertical Wall Panels in the future."

– **Frank Brittain, Building Solution Manager**



## Product benefits:

- Rapid and accurate build
- Increased quality control
- Integrated system
- Fully managed package – design, manufacture, install, complete

## H+H aircrete applications:

- Internal and external leaves in cavity walls
- Solid walls
- Separating / party walls
- Flanking walls
- Partitions Infill to multi-storey buildings
- Foundations

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