



Code Level 5 Affordable Housing Project for Hill Partnerships - Mayfield Road

Project Brief

SIPs played a key role in meeting the challenge to construct to Code Level 5 on a grand scale, with 29 homes being built to meet these exacting standards; the result of a competition lead by Huntingdon District Council.

Architects PRP came up with an original design for Wherry Housing Association, part of Circle Anglia, which aimed to avoid the bland uniform approach that is the simplest route to achieving Level 5 of the Code for Sustainable Homes. Project architect Mark Bell commented "It's easiest to base everything on airtight square boxes, but we wanted to show that you can deliver more flair and still achieve higher levels of the Code."



Project Type/Application

The design uses Passivhaus principles to reduce energy consumption, and the Kingspan TEK[®] Building System from Kingspan Insulation was selected to provide the highly insulated, airtight core shell of the development. The System was chosen due to its combination of flexibility, thermal performance and speed of erection, which allowed for a rapid completion on site.

Hill Partnerships were the contractors for the project, and sustainability manager, Warren Sparkes, was enthusiastic about the advantages of using SIPs: "The envelope alone meets CSH Level 3, with the combination of 142mm Kingspan TEK[®] Building System panels and 60mm Kingspan Thermawall[®] TW55 giving U-values of 0.13 W/m².K," he said, "and the structural insulated shell for all 29 new homes was completed in just 14 weeks."

To reach Code Level 5 a range of further solutions were employed, including photovoltaic panels to generate clean electricity, solar heating to provide 60% of the hot water supply, and the careful alignment of the homes to use passive solar gain, as well as solar rooms to provide additional heat from the sun. Each property is equipped with an Itho mechanical ventilation and heat recovery unit and Ecoplay grey water recycling system, plus energy monitoring devices and highly efficient gas boilers. Green roofs were also used on a number of properties to increase biodiversity and help manage rainwater run-off.





Outcome/Result/Success Factors

SIPs can cost effectively deliver the higher levels of the Code through extremely high levels of thermal efficiency, together with the ease of construction provided by the prefabricated nature of the panels.

This highly effective modern method of construction is providing answers to many of the key challenges as we head towards the zero carbon target in 2016.



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