

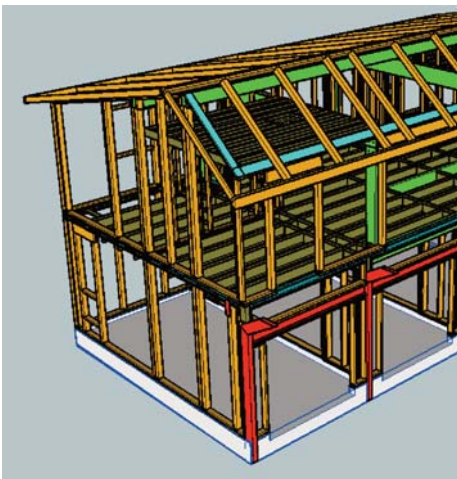
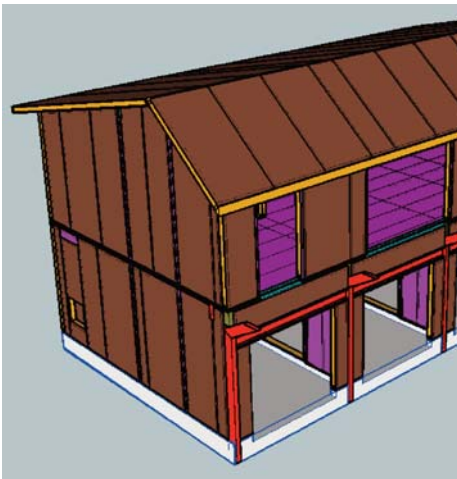


## Design solutions on England's first large scale zero carbon development at Hanham Hall

### Project Brief

The development will be one of the first large-scale zero carbon communities in England and will be the first development by a major house builder to meet the Code for Sustainable Homes Level 6. It will meet demanding targets to reduce energy and water use and will reduce other impacts on the environment.

An average home in the UK loses ten times its volume of air daily, which means that in winter a heating system would have to heat the air in the house ten times every day in order to keep it warm. Homes at Hanham Hall however, have been designed to reduce air leakage using the Kingspan TEK<sup>®</sup> panel system, through high standards of design and construction. By reducing the amount of air lost each day to a minimum only the houses' own volume of air is lost. This means that the homes need far less energy to heat them so energy bills will be reduced.



### Project Type/Application

The SIPs panel will deliver the low U-values needed to achieve the Carbon Challenge.

The Kingspan TEK<sup>®</sup> system has a composition of 110mm of high performance insulation core, sandwiched between two layers of Oriented Strand Board type 3 (OSB/3).

Thermal Performance is further enhanced by the high level of airtightness. This had to be incorporated by RK SIPs Design designing in splines' where possible instead of posts hence reducing the Thermal Bridging.



## Outcome/Result/Success Factors

As a standard form of construction party walls have 1200mm wide 9mm sheathing at each end of the panel to the inner cavity. The client didn't want to lose points on the Code for Sustainable Homes because of this issue. They would also lose credits on the internal walls Green Guide rating which would cost them three credits.

Solving the problem was simple RK SIPS asked the architect if it was possible to replace the racking resistance needed from the party walls into the internal walls and using 12mm Ply instead of 9mm OSB.

The 12mm Ply gave more racking resistance than the 9mm OSB. Once this option was agreed and the Client was happy with the changes we were able to maintain the racking resistance and gain the credits needed.



**RK-SIPs Design Limited**  
Unit 26  
Beeches Road  
Kidderminster DY11 5HF

**Raj Singh Kang**  
0790 1518936  
[rkang@rksipsdesign.com](mailto:rkang@rksipsdesign.com)  
[www.rksipsdesign.com](http://www.rksipsdesign.com)