



IUQ hanger for SIP panels allow simpler detailing and improved airtightness performance

Project Brief

This designed and built house was conceived by Iain Bramble Architects to be an efficient to build, cost effective to run, family home for his own use.

A number of materials were considered for the fabric of the building, with the driving factor being to be as 'low-carbon' as possible, in both the materials used and the future running costs of the house. Considerations, such as ease and speed of construction, overall cost, and amount of labour required on site were all factors in the decision process.

Structural insulated panels, from SIPCO Ltd, were chosen as they form an efficient, well insulated building shell which is made to size in the factory and able to be erected in just a few days.



Project Type/Application

The site for the build was fairly restrictive in terms of access, being at the junction of a side road, main road and lane, leaving little room for material storage. The decision to use SIP panels as the fabric of the house allowed the walls to be delivered and erected straight from the delivery vehicle without taking up the limited ground space.

To keep the speed of build up open-web floor joists were connected to the SIP walls using the new IUQ joist hanger from Simpson Strong-Tie. With the hangers being fitted to the face of the SIP panel rather than on top this allowed for much simpler detailing at the wall/floor/wall junction, enabling air leakage to be almost completely eliminated at that point, eliminating thermal bridging and speeding up the installation of the floor, allowing the second storey to be installed a day ahead of schedule.

Outcome/Result/Success Factors



The Simpson Strong-Tie IUQ hangers have given the manufacturers and users of SIP panels the opportunity to improve on their products' performance against the criteria of the Code for Sustainable Homes.

Common practice when designing intermediate floors in SIP buildings, was to sit the floor joists on top of the walls and place timber blocking pieces between the joist/wall junction. This created detailing problems when it came to air leakage and thermal breaks at the floor/wall junctions, costing time and money.

The IUQ hanger range has solved those problems by being designed with a method of fixing to the face of the OSB on the SIP panel using Simpson's SDS screws, allowing the joists to be brought inside the walls, while still being structurally sound.

The combination of off-site manufactured SIP wall panels, with open web floor joist supported by specifically designed joist hangers, allowed the construction of the building envelope to be completed ahead of schedule and budget.



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