

Thrown a curved ball

When a housebuilder builds his own home, you can be sure the materials are chosen with great care! Barry Fingleton tells FC&A why he chose insulated concrete forms.

The house at Cullnagh is outstripping even the most ambitious of green standards

Curved walls are usually every builder's nightmare. But for specialist house builder Barry Fingleton, not only were they a must-have when it came to designing his own 3,250sqft home in County Laois, in Ireland, he knew that by using insulated concrete forms, it would also be a piece of cake.

Barry has been working with insulated concrete form manufacturer NUDURA's products for years and so knows only too well the flexibility they provide to turn ambitious architectural plans into one-off homes that people love to live in. When it came to designing and building his own

home – it was the obvious material to use.

Built in a semi-circle, the main living space is located along the convex wall to provide panoramic views of Barry's 18-acre plot and the countryside beyond. "The landscape was an important part of the design as it's something I'm very passionate about," said Barry, who holds a degree in agricultural science, and who farms much of his land.

High standards

The grounds incorporate a large cedar-clad garage and workshop, a potting shed, and a stable block, which were all constructed using insulated concrete

forms. But the materials go further than just creating the right-shaped house for Barry. Barry's high standards required that the house would outperform others in terms of energy usage. And it does.

The thermal properties of Nudura's insulated concrete forms and the other materials used in construction means that the house, in the town of Cullnagh, is 86% more energy efficient than the average modern house and 78% more efficient than the latest building regulations require.

In fact, the house is also outstripping even the most ambitious of green standards. The Zero Carbon Hub, a quango set up

to guide housebuilders towards greener building standards, calls for the maximum heating demand for a detached home to be 46 kwh/m2/ per year.

Outperforming targets

The total energy usage at the Cullnagh house is outperforming that target by 15%. The house is heated with a heat recovery ventilation system, has solar panels on the roof is equipped with low-energy LED and CFL lighting throughout and has been roofed with cedar shingle and slate mulch.

ICFs are gathering solid momentum in terms of market share. The switch from other methods of construction makes perfect sense because U-values for the new ICF units are as low as 0.16, 0.13 and even 0.10, bringing increased efficiency to both commercial and residential construction. NUDURA Technology has developed the largest ICF forms available which make building measurably easier and faster. There is virtually no waste thanks to a 4 way reversible system less waste and a reduced amount of seams compared to other ICFs. NUDURA's patented hinged web reduces assembly time, increases transport capacity by up to 40% and reduces storage space on site. NUDURA is fully approved for the UK and carries an ETA (European Technical Approval) through the BBA.

www.nuduraicfs.co.uk

The main living space is located along the convex wall



Pouring the concrete in to the insulating formwork



A 4 way reversible system means less waste and a reduced amount of seams