



Warmbuild home, Cullenagh, Ireland

NUDURA puts green housing project at top of its class

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.

Statistical case study: Warmbuild home, Cullenagh, Portlaoise, Co Laoise, Ireland

In UK terms, this home falls between levels 4 & 5 of the Code for Sustainable Homes

House size: 302m², 4 bedrooms

Exterior walls: 150mm NUDURA U-value 0.24

Floor insulation: 100mm Kingspan U-Value 0.21

Roof insulation: 150mm NUDURA U-Value 0.24

Air Permeability: 0.096 ACH/1.86m³/hr.m²

Energy consumption/non renewables

671 litres oil heating/hot water, 12 months

6452kWh electricity, 12 months (house, garage/workshop, stables)

50kg LPG, cooking

Oil 671L @ 10.27kWh/L: 6891kWh

Electricity: 6452 kWh

LPG 50kg @ 12.5 kWh/kg: 625kWh

Total: 13,968 kWh/yr

Total usage: 46.25 kWh/m²/year

Usage for home only (non renewables)

Assume 75% of oil for heating and 25% for hot water

Heating: 5168 kWh = 17.11 kWh/m²/yr

Hot water: 1723 kWh

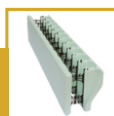
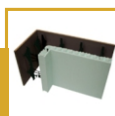
Electricity: 4457 kWh (av Irish home usage)

Cooking: 625 kWh

Total: 11,973 kWh/yr

Total/m² 39.65 kWh/m²/yr

NB: Zero carbon hub standard is 46kWh/m²/per year





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 Cullenagh, is 86 per cent more energy efficient than the average modern house and 78 per cent 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.

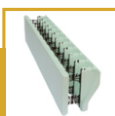
The total energy usage at the Cullenagh house is outperforming that target by 15 per cent.

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.

NUDURA technology has been available in the UK and Ireland for some five years and insulated concrete forms (ICFs) are gathering solid momentum in terms of market share.

The switch from other methods of construction to NUDURA innovation 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 percent and reduces storage space on site.

NUDURA is fully approved for the UK and carries an ETA (European Technical Approval) through the BBA.

NUDURA Insulated Concrete Forms (ICF) provides design professionals, architects, home owners and contractors with a more efficient way to build concrete homes and commercial ICF structures.

Building with NUDURA Integrated Building Technology allows concrete homes, commercial and institutional buildings to be of stronger construction, more energy efficient, more comfortable and more environmentally friendly.

NUDURA ICF benefits include long term value and affordability, faster and more efficient construction, limitless design capabilities, flexibility and simplicity, and installer friendly building systems.

A UK Green Council Building member, NUDURA provides substantial green building benefits, is also a member of the Sustainable Building Association and is proud to contribute to the LEED (Leadership in Energy and Environmental Design) Program.

For further information contact Jean Marc Bouvier, Director of Sales and Business Development – International on 07766 118711 or visit www.Nuduraicfs.co.uk

