

DuPont™ **Energain®**

The direct experience of Architect Richard Hawkes

Daily usage shows that DuPont™ Energain® thermal mass solution performs brilliantly at “Crossway” eco-home



Crossway eco-house; project by Richard Hawkes – HAWKES® architecture (photos courtesy of Richard Hawkes)

Located near Staplehurst in Kent (England) Crossway eco-house is not just an exercise in sustainable building, it is a triumphant marriage of energy-efficiency with pleasing aesthetics and, above all, it is the much loved family home of its visionary architect, Richard Hawkes. The project was featured on UK TV's Grand Designs programme in 2008 and has been comfortably inhabited by the Hawkes family for two years. One of several innovative energy-saving features in the project was the installation of DuPont™ Energain®, a pioneering thermal mass solution based on patented phase change technology.

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Modern construction methods and materials can result in buildings suffering from a lack of thermal mass and thus being vulnerable to uncomfortable temperature peaks caused by solar and other thermal gains, which must then be corrected by often expensive and energy guzzling systems such as air-conditioning.

Developed as a lightweight solution for low-inertia buildings, DuPont™ Energain® comes in panels of 1.0 m x 1.2 m x 5.26 mm and is easily installed and sealed behind the plasterboard in walls or above ceiling panels. This means design choices, weight loadings or build time need not be compromised. Compared to some conventional thermal mass products, as for example concrete, a 5 mm thick panel of DuPont™ Energain® behaves approximately like 30 – 40 mm of concrete.

The system works by absorbing ambient heat as room temperature rises (at around 22°), storing it until the temperature drops again (at around 18°), and then releasing it back into the room. DuPont™ Energain® thereby not only improves interior comfort, but can also make significant energy savings too. Real-life testing has proven that DuPont™ Energain® helps to stabilize room temperatures by up to 7°C and reduce energy consumption by up to 15% for heating costs and up to 35% of air-conditioning costs.

At Crossway eco-house, the home and brain-child of architect Richard Hawkes, DuPont™ 127 square metres of Energain® thermal mass solution has been installed for over two years, in the south facing master bedroom where its performance has also been tested by Cambridge University.

Richard Hawkes: “We think DuPont™ Energain® is brilliant. It really does work amazingly well. Sometimes, at night when the temperature drops low enough again, we can literally feel the walls releasing back warmth. The monitoring analysis with Cambridge University clearly shows that peak temperatures last summer were reduced by, on average, 4 degrees.”

Richard is also delighted to announce that Crossway has now achieved official Passivhaus recognition for its energy performance, making it one of the first accredited Passivhaus buildings in the UK.

For more information on Crossway: Richard Hawkes – HAWKES® architecture, E: enquire@hawkesarchitecture.co.uk, www.crossway.tumblr.com

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