

News Release



BASF phase change materials put to the test

A new plasterboard material using Micronal[®] phase change material from BASF, the chemical company, is being trialled in the Mark Group Eco House at the University of Nottingham. In this instance the Micronal is used in the new Comfortboard plasterboard from Knauf.

The house has been built to demonstrate some of the most recently developed technology for energy efficient housing with a view to monitoring the performance of the house over a period of years.

In the sun space area two types of plasterboard from Knauf have been installed. One is a standard gypsum plasterboard, the other is the Knauf Comfortboard which contains the Micronal phase change material (PCM).

PCMs use the principle of latent heat to produce their temperature stabilisation effect. Micronal consists of microscopic particles of wax encased in a tough polymer shell. As the temperature rises, the wax melts and draws heat energy out of the surrounding atmosphere. When the temperature falls the wax returns to a solid state releasing its heat back into the atmosphere.

Micronal can be incorporated into a range of building materials and the Comfortboard product from Knauf enables it to be used within standard domestic interiors. The effect is to stabilise internal temperature, preventing overheating during the day and releasing warmth back into the house during the cooler night time period.

Nov 20, 2013

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The ability of PCMs to effect this change in the laboratory is not in question, but the installation in the Mark Group house allows the effect to be measured in a living environment. The University of Nottingham's Department of Architecture and Built Environment has set up a testing routine where the heat flux across the surface of the board is continually monitored for both the standard plasterboard and the Knauf Comfortboard, enabling a scientifically robust comparison to be made.

The Mark Group house is the sixth house in the Creative Energy project at Nottingham. The BASF House, part of the same project, showcases various BASF technologies, including one of the first domestic uses of Micronal in the UK.

About BASF's solutions for housing and construction

The construction industry is one of BASF's key customer industries, accounting for up to ten percent of total Group sales. As a leading provider of raw materials, systems and finish products to the construction industry, BASF provides economically and ecologically sound solutions that contribute to sustainable housing and construction by reducing resource consumption, lowering energy consumption, increasing building life expectancy and enabling faster construction processes. From foams and latent heat storage for thermal insulation, concrete admixtures and repair products, waterproofing solutions and industrial and decorative flooring systems to decorative paints, architectural and coil coatings, BASF offers the broadest portfolio of building materials used directly on construction sites or integrated into other products. Sales to the construction industry in 2012 were €5.2 billion.

About BASF

BASF is the world's leading chemical company: The Chemical Company. Its portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. We combine economic success with environmental protection and social responsibility. Through science and innovation,

we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. BASF had sales of €72.1 billion in 2012 and more than 110,000 employees as of the end of the year. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (AN). Further information on BASF is available on the Internet at www.basf.com.