News Release

Mobile app demonstrates cooling energy savings potential of Micronal® PCM

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Dispersions & Pigments
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Ludwigshafen, Germany – March 10, 2015 – A new mobile app from BASF is helping architects, investors and designers of technical building equipment to assess the impact of latent heat storage enhanced building materials on the cooling load of buildings. Unlike the conventional software used to calculate cooling load, the application for mobile end devices takes building materials based on Micronal® PCM (Phase Change Material) into account and identifies potential energy savings that can be made when cooling buildings. The app is available in German and English and can be downloaded free of charge from the Apple and Google App Store as well as from www.micronal.de.

Users of the app can enter the cooling load of a building conventionally calculated according to VDI 2078. After entering some additional data on the building situation and the desired PCM building material, they are provided with a figure which is a reduction factor for this cooling load, optimized for the application in question. This reduction factor is calculated on the basis of forecast dynamic simulations in standard rooms and applies the user's data to a suitable reference building, extrapolating it to the actual construction project in question.

The comprehensive simulation study forming the basis of this work was carried out together with the planning and engineering office ARUP and demonstrates the potential of latent heat storage systems in cooling various types of buildings. Office buildings, for instance, require smaller cooling systems if Micronal PCM is used which in turn releases more floor space. Air conditioning systems can often be

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dispensed with in residential buildings with a window area of 40 to 50 percent.

The app also takes economic efficiency into account and shows the user the break-even point when the costs required for buying and installing the PCM construction material have been covered by savings in facility investments and energy. Furthermore, the app provides information on construction material based on Micronal PCM such as dry wall boards based on gypsum and clay, chilled suspended ceiling systems, internal plasters or even PCM furniture. As the app also includes calculation modules or tips for planners and users, it constitutes a comprehensive and helpful tool for the correct application of latent heat storage solutions in buildings.

About Micronal® PCM

Construction materials based on Micronal PCM ensure, in particular in summer, a comfortable room climate through active temperature management and are an alternative to or a complementary solution for power-consuming air conditioning systems. The micro-encapsulated phase change material absorbs and stores superfluous heat as and when required. When temperatures rise, the Micronal PCM material within the construction material gets activated. As soon as the room temperature goes down, for example during the night when the room is ventilated, the absorbed heat is released; this way the room temperature always stays the same. More information is available on www.micronal.de.

About BASF

At BASF, we create chemistry – and have been doing so for 150 years. Our portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. As the world's leading chemical company, 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 over €74 billion in 2014 and around 113,000 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.