

CoDyBa: A special numerical software programme customised for DuPont™ Energain®

November 2006 - CoDyBa (CDB_dDDN_V2) is a software system designed to determine the energetic fluxes of a building zone, i.e. how quickly and effectively it is processing or indeed wasting its heat. It assesses the climatic conditions, the internal loads, the heating and air-conditioning systems and their regulation, then calculates the thermal behaviour of a building. From here it can predict how great the building's need for DuPont™ Energain® is – and in what quantity.

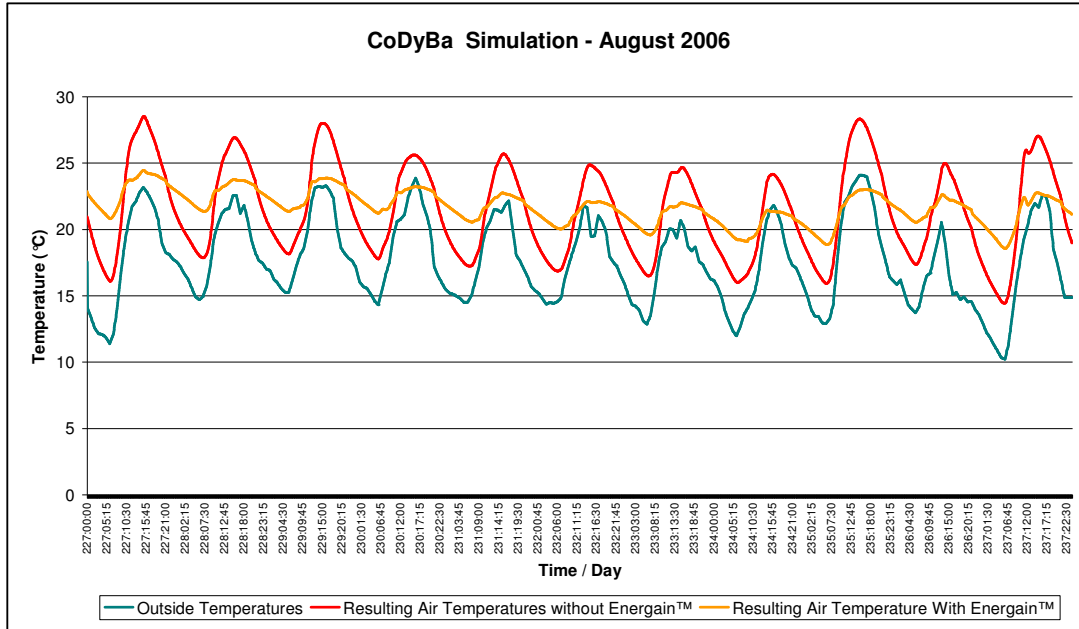
Assessing the thermal behaviour of a building has been the object of numerous software developments over the last thirty years, yet CoDyBa is probably one of the most precise and effective. In development since 1981, the standard programme was originally the result of a thesis, and has been available as a commercial version since 1985. It is the recent developments in the software that have been the most significant though – the actual design of the product has been reversed, reinventing the way that such calculations were traditionally made.

Thus, the standard version of CoDyBa is able to offer heat engineers and technicians a method of accurately establishing the energy balance of a building and of analysing parameters such as windows, solar protections, building inertia and orientations. Reliable, simple to use and undeniably revolutionary, CoDyBa represents a huge breakthrough in its field.

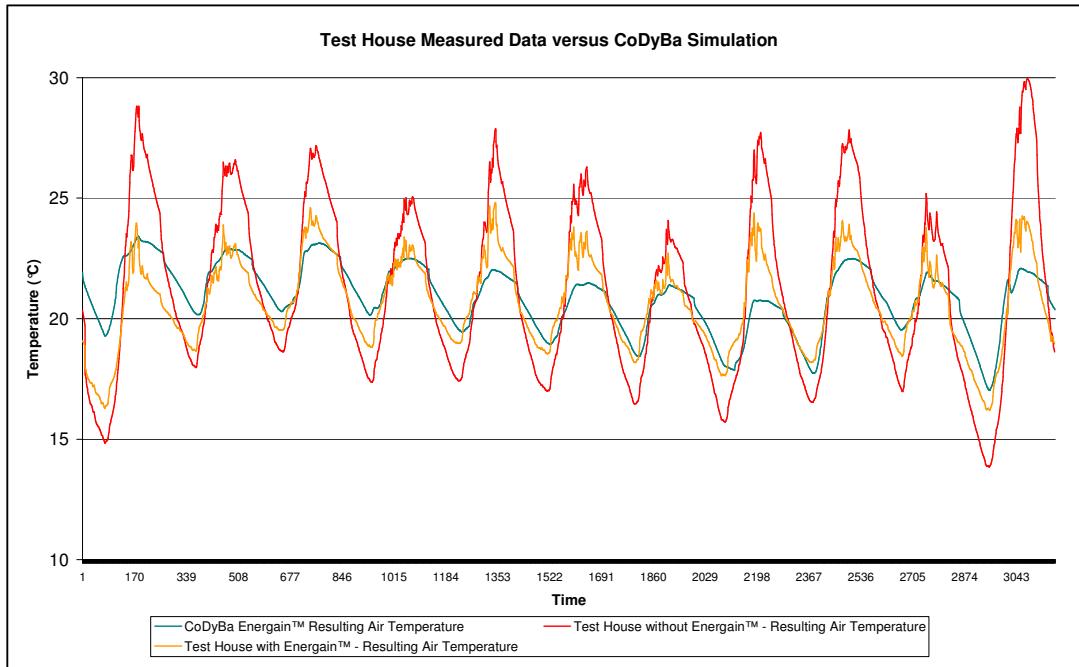
For the purposes of calculating for DuPont™ Energain® a special version of the software has been developed and proprietary of DuPont.

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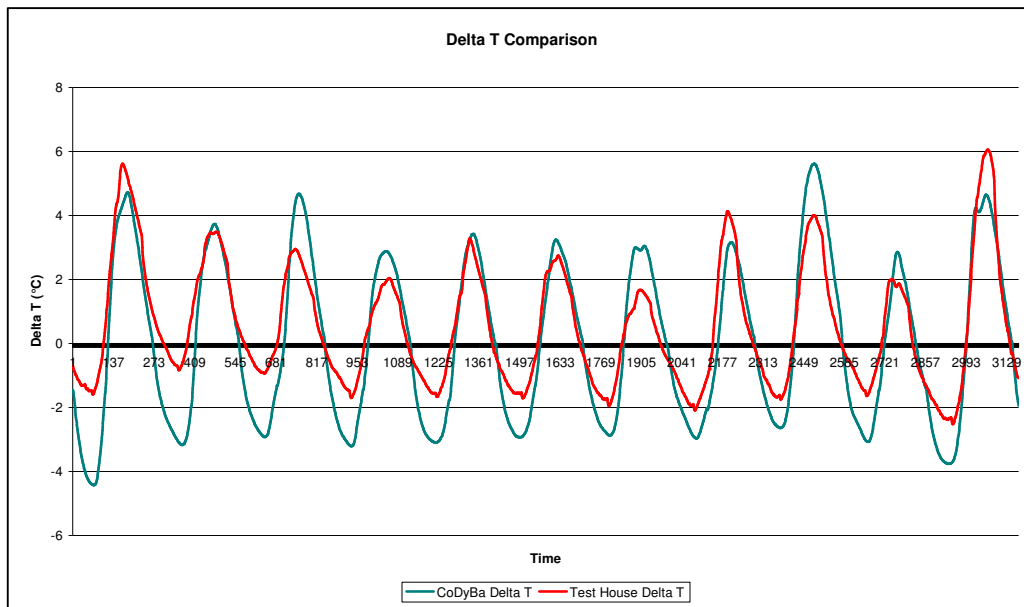
Example of Resulting air temperature curves calculated by CoDyBa with and without DuPont™ Energain® for the same building structure:



Comparison between a physical experiment (Test House) and the Numerical software simulation:



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Notes to Editors

DuPont™ Energain® is a radical new concept in thermal mass materials that could revolutionise the way the world constructs. Suitable for “low-inertia” structures such as timber, steel or aluminium framed buildings, this thermal mass system can make a significant contribution in the drive toward sustainability.

By stabilizing the effects on room temperature at both ends of the scale, DuPont™ Energain® dramatically decreases both air conditioning costs (by up to 35%) and heating costs - and significantly reduces the CO₂ footprint of a building. The material offers further benefits in terms of comfort as it minimises temperature peaks in a building by up to 7°C. A light-weight and easy-to-install panel in a 5mm thickness, DuPont™ Energain® enables architects and designers to build sustainable, innovative, cost-efficient buildings. **DuPont™ Energain® Thermal Mass Systems is a patented technology made only by DuPont.**

DuPont is a science-based company. Founded in 1802, DuPont puts science to work by creating sustainable solutions essential to a better, safer, healthier life for people everywhere. Operating in more than 70 countries, DuPont offers a wide range of innovative products and services for markets including agriculture and food; building and construction; communications; and transportation.

An introduction to the overall DuPont offer for architecture, interior design, building and construction markets is available at www.buildingonscience.dupont.com. The range of DuPont™ Energain® products is shown at www.energain.co.uk.

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Media contact DuPont™ Energain®:

Claudio Greco, DuPont Building Innovations, Public Relations and Media Relations Manager (Europe, Middle East and Africa), claudio.greco@dupont.com; Peggy Beicht, DuPont Building Innovations, Public Relations and Media Relations (Europe, Middle East and Africa), peggy.beicht@dupont.com